



#7

SEQUENCE LISTING

Srikoo, Suresh
Babiuk, Lorne
Zhang, Linong
Wu, Qiaohua

<120> MODIFIED BOVINE ADENOVIRUS HAVING
ALTERED TROPISM

<130> 293102003000

<140> US 09/871,212

<141> 2001-05-31

<150> US 60/208,678

<151> 2000-05-31

<160> 9

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 34446

<212> DNA

<213> Bovine Adenovirus 3

<400> 1

catcatcaat	aatctacagt	acactgatgg	cagcgggtcca	actgccaatc	atTTTTGCCA	60
cgTcatttat	gacgcaacga	cggcgagcgt	ggcgtgctga	cgtaactgtg	gggCGGAGCG	120
cgTcgCGGag	gcggcggcgc	tgggcggggc	tgagggcggc	gggggcggcg	cgCGGGCGG	180
cgcgCGGGgc	ggggcgaggc	gcggagttcc	gcaccgccta	cgTcattttc	agacattttt	240
tagcaaatTT	gcgccttttg	caagcatttt	tctcacattt	caggTattta	gagggcggat	300
ttttggtgTt	cgtacttccg	tgtcacatag	ttcactgtca	atcttcatta	cggcttagac	360
aaatTTTcgg	cgtcttttcc	gggtttatgt	ccccggtcac	ctttatgact	gtgtgaaaca	420
cacctGCCa	ttgtttaccc	ttggTcagtt	ttttcgTctc	ctagggtggg	aacatcaaga	480
acaaattTgc	cgagtaattg	tgcacctttt	tcgcgTtag	gactgcgttt	cacacgtaga	540
cagactTTTT	ctcattttct	cacactccgt	cgTccgcttc	agagctctgc	gtcttcgctg	600
ccaccatgaa	gtacctggTc	ctcgTtctca	acgacggcat	gagTcgaatt	gaaaaagctc	660
tctctgtgcag	cgatggTgag	gtggatttag	agtgtcatga	ggTacttccc	ccttctcccg	720
cgctgttccc	cgcttctgtg	tcacccgtga	ggagTcctcc	tctctgtct	cgggtgtttc	780
ctccgtctcc	gccagccccg	cttgtgaatc	cagaggcgag	ttcgTgctg	cagcagtatc	840
ggagagagct	gTtagagagg	agcctgctcc	gaacggccga	aggTcagcag	cgtgcagtgt	900
gtccatgtga	gcggttgccc	gtggaagagg	atgagtgtct	gaatgccgta	aatttgctgt	960
ttctgatcc	ctggctaaat	gcagctgaaa	atgggggtga	tatttttaag	tctccggcta	1020
tgtctccaga	accgtggata	gatttgtcta	gctacgatag	cgatgtagaa	gaggTgacta	1080
gtcactTTTT	tctggattgc	cctgaagacc	ccagTcgggg	gtgttcattc	tgtgggtttc	1140
atcaggTtca	aagcggaatt	ccaggcatta	tgtgcagttt	gtgctacatg	cgccaaacct	1200
accattgcat	ctatagtaag	tacattctgt	aaaagaacat	cttggtgatt	tctaggTatt	1260
gtttagggat	taactgggtg	gagtgatctt	aatccggcat	aaccaaatac	atgttttcac	1320
aggTccagtt	tctgaagagg	aaatgtgagt	catgttgact	ttggcgcgca	agaggaaatg	1380
tgagtcatgt	Tgactttggc	gcgcctacg	gtgactttaa	agcaatttga	ggatcacttt	1440
tttgTtagtc	gctataaagt	agTcacggag	tcttcatgga	Tcacttaagc	gttcttttgg	1500
atttgaagct	gcttcgctct	atcgtagcgg	gggcttcaaa	Tcgactgga	gtgtggaaga	1560
ggcggtctgt	gctgggacgc	ctgactcaac	tggTccatga	Tacctgcgta	gagaacgaga	1620
gcataTTTct	caattctctg	ccagggaatg	aagctTTTTt	aaggTtgctt	cggagcggct	1680

atthttgaagt	gtttgacgtg	tttgtggtgc	ctgagctgca	tctggacact	ccgggtcgag	1740
tggcgccgc	tcttgcctcg	ctggtgttca	tcctcaacga	tttagacgct	aattctgctt	1800
cttcaggctt	tgattcaggt	tttctcgtgg	accgtctctg	cgtgccgcta	tggctgaagg	1860
ccagggcgtt	caagatcacc	cagagctcca	ggagcacttc	gcagccttcc	tcgtcgcccc	1920
acaagacgac	ccagactacc	agccagtaga	cggggacagc	ccaccccggt	ctagcctgga	1980
ggaggctgaa	cagagcagca	ctcgtttcga	gcacatcagt	taccgagacg	tgggtggatga	2040
cttcaataga	tgccatgatg	ttttttatga	gaggtagacg	tttgaggaca	taaagagcta	2100
cgaggctttg	cctgaggaca	atthtgaggca	gctcatagct	atgcatgcta	aaatcaagct	2160
gctgcccggg	cgggagtatg	agttgactca	acctttgaac	ataacatctt	gcgcctatgt	2220
gctcggaat	ggggctacta	ttagggtaac	aggggaagcc	tccccggcta	ttagagtggg	2280
ggccatggcc	gtgggtccgt	gtgtaacagg	aatgactggg	gtgacttttg	tgaattgtag	2340
gtttgagaga	gagtcaacaa	ttagggggtc	cctgatacga	gcttcaactc	acgtgctgtt	2400
tcatggctgt	tattttatgg	gaattatggg	cacttgattt	gagggtggggg	cgggagctta	2460
cattcggggt	tgtgagtttg	tgggctgtta	ccggggaatc	tgttctactt	ctaacagaga	2520
tattaaggtg	aggcagtga	actttgacaa	atgcttactg	ggtattactt	gtaaggggga	2580
ctatcgctct	tcgggaaatg	tgtgttctga	gactttctgc	tttgctcatt	tagagggaga	2640
gggtttgggt	aaaaacaaca	cagtcaagtc	ccctagtcgc	tggaccagcg	agtctggctt	2700
ttccatgata	acttgtgcag	acggcagggt	tacgcctttg	ggttccctcc	acattgtggg	2760
caaccgttgt	aggcgttggc	caaccatgca	ggggaatgtg	tttatcatgt	ctaaactgta	2820
tctgggcaac	agaataggga	ctgtagccct	gccccagtgt	gctttctaca	agtccagcat	2880
ttgtttggag	gagagggcga	caaacaagct	ggtcttggct	tgtgcttttg	agaataatgt	2940
actggtgtac	aaagtgtctg	gacgggagag	tccctcaacc	gtgaaaatgt	gtgtttgtgg	3000
gacttctcat	tatgcaaagc	ctttgacact	ggcaattatt	tcttcagata	ttcgggctaa	3060
tcgatacatg	tacactgtgg	actcaacaga	gttcaactct	gacgaggatt	aaaagtgggc	3120
ggggccaaga	ggggtataaa	taggtgggga	ggttgagggg	agccgtagtt	tctgtttttc	3180
ccagactggg	ggggacaaca	tggccgagga	agggcgcat	tatgtgcctt	atgtaactgc	3240
ccgcctgccc	aagtggtcgg	gttcgggtgca	ggataagacg	ggctcgaaca	tgttgggggg	3300
tgtggtactc	cctcctaatt	cacaggcgca	ccggacggag	accgtgggca	ctgaggccac	3360
cagagacaac	ctgcacgcgg	agggagcgcg	tcgtcctgag	gatcagacgc	cctacatgat	3420
cttgggtggag	gactctctgg	gaggtttgaa	gaggcgaaatg	gacttgctgg	aagaatctaa	3480
tcagcagctg	ctggcaactc	tcaaccgtct	ccgtacagga	ctcgtgcctt	atgtgcaggc	3540
taaccttgtg	ggcgccaag	ttaacccctt	tgtttaaata	aaaatacact	catacagttt	3600
attatgctgt	caataaaaatt	ctttattttt	cctgtgataa	taccgtgtcc	agcgtgctct	3660
gtcaataaagg	gtcctatgca	tcctgagaag	ggcctcatat	accatggcat	gaatattaag	3720
atacatgggc	ataaggccct	cagaagggtt	gaggtagagc	cactgcagac	tttctgtggg	3780
aggtaagggtg	ttgtaaataa	tccagtcata	ctgactgtgc	tgggcgtgga	aggaaaagat	3840
gtcttttaga	agaagggtga	ttggcaaagg	gaggctctta	gtgtaggtat	tgataaatct	3900
gttcagttgg	gagggatgca	ttcgggggct	aataagggtg	agtttagcct	gaatcttaag	3960
gttggaatg	ttgcccccta	ggtcttttgc	aggattcatg	ttgtgcagta	ccacaaaaac	4020
agagtagcct	gtgcatttgg	ggaatttatc	atgaagcttg	gaggggaagg	catgaaaaaa	4080
ttttgagatg	gcttttatgg	gccccagggt	ttccatgcat	tcgtccataa	taatagcaat	4140
aggcccggtt	ttggctgcct	gggcaaacac	gttctgaggg	tgggcgacat	catagttgta	4200
gtccatgggt	aggctcttcat	aggacatgat	cttaaaggca	ggttttaggg	tgctgctttg	4260
aggaaccaga	gttcctgtgg	ggccgggggt	gtagttccct	tcacagattt	gggtctccca	4320
agcaagcagt	tcttgccggg	gtatcatgtc	aacttggggg	actataaaaa	aaacagtttc	4380
gggaggtggt	tgaatgaggc	ccgtagacat	aaggtttctg	aggagctggg	atthttccaca	4440
accggttggg	ccgtagacca	ccccataaac	gggttgcatg	gtaaagttha	aagatttgca	4500
tgaaccgtca	gggcgcagat	atggcatggt	ggcattcatg	gcactcttta	tcgcctgatt	4560
atagtctgag	agggcattga	gtaggggtgg	gccccccata	gccagtagct	cgtccaagga	4620
agaaaagtgt	ctaagggtgt	tgaggccctt	agccatgggc	atggactcta	agcactgttg	4680
catgagagca	caattgtccc	aaagctcaga	gacgtgggtc	agtacatctc	catccagcat	4740
agctctttgt	ttcttggggt	gggggtggctg	ttgtctgtagg	gggcgagacg	gtgacggctg	4800
atggccccga	gggtgcggtc	tttccagggt	ctgagcgctc	tcgccagggt	cgtctcggtg	4860
accgtgaagg	gctgctgatg	cgtctgtctg	ctgaccagcg	agcgccctcag	gctgagcctg	4920
ctggtgccga	acttttctgc	gcctagctgt	tcagtggaa	aataacaagt	caccagaagg	4980
tcgtaggaga	gttgtgaggt	ggcatggcct	ttgtcgaag	tttgccagaa	ctctcggcgg	5040
cggcagcttg	ggcagtagat	gtttttaagg	gcataatagt	tgggggctaa	gaagacagat	5100

tcctggctgt	gggcgtctcc	gtggcagcgg	gggcactggg	tctcgcattc	cacaagccaa	5160
gtcagctgag	ggttggtggg	atcaaagacc	agaggacggg	tattaccttt	caggcgggtgc	5220
ttgcctcggg	tgtccatgag	ttcctttccc	ctttgggtga	gaaacatgct	gtccgtgtct	5280
ccgtagacaa	atttgagaat	ccggtcttct	aggggagtg	ctctgtcttc	taaatagagg	5340
atgtctgccc	attcagagac	aaaggctcta	gtccacgcga	ggacaaatga	agctatgtgt	5400
gaggggtatc	tgttattaaa	tatgagagag	gatttttttt	gcaaagtatg	caggcacagg	5460
gctgagtcac	cagcttccag	aaagggtgatt	ggtttgtaag	tgtatgtcac	gtgatggttc	5520
tgggggtctc	ccaggggtata	aaagggggcg	tcttcgtctg	aggagctatt	gctagtgggt	5580
gtgcaactgac	ggtgcttccg	cgtggcatcc	gtttgctgct	tgacgggtga	gtaggtgatt	5640
tttagctctg	ccatgacaga	ggagctcagg	ttgtcagttt	ccacgaaggc	ggtgcttttg	5700
atgtcgtagg	tgccgtctga	aatgcctcta	acataattgt	cttccatttg	gtcagaaaag	5760
acagtgaactc	tgttgcttag	cttagtgga	aagctgccat	acagggcatt	ggacagcagt	5820
ttggcaatgc	ttctgagagt	ttggtttttc	tctttatccg	ccctttcctt	gggcgcaatg	5880
ttaagttgca	cgtagtctct	agccagacac	tcccactggg	gaaatactgt	ggtgcggggg	5940
tcgttgagaa	tttggaactc	ccagccgcgg	ttatgaagcg	tgatggcatc	caaacaagtt	6000
accacttccc	cccgtagtgt	ctcgttggtc	cagcagaggc	gacctccttt	tctggagcag	6060
aagggcggtg	taacgtccaa	gaatgcttct	gggggtgggt	ctgcatcaat	ggtgaatatc	6120
gcgggagta	gggtgcatc	aaaatagtca	atgggtctgt	gcaactgggt	taggcggtct	6180
tgccagtttt	taattgcaag	cgctcgatca	aaggggttca	aaggttttcc	cgctgggaaa	6240
ggatgggtga	gggcgtggc	atacatgccg	cagatgtcat	acacatagat	ggcttctgtt	6300
aggacgccta	tgtaggtagg	atagcatcgg	ccgccccgaa	tactttctct	aacgtaatca	6360
tacatttcat	tgggaagggc	tagtagaaa	ttgccagag	agctcctgtt	gggacgctgg	6420
gatcggtaga	ctacctgtct	gaagatggca	tgggaattgg	agctgatggg	gggccttttg	6480
aggacattga	aattgcagtg	gggcagcccc	actgacgtgt	gaacaaagtc	caaataagat	6540
gcttgaggtt	ttttaaccaa	ttcgcccgta	accagcacgt	ccatagcaca	gtagtccaag	6600
gtgcgttgca	caatatcata	ggcacctgaa	ttctcttgca	gccagagact	cttattgaga	6660
aggtaactct	cgctcgctgga	ccagtagtcc	ctctgaggaa	aagaatctgc	gtcgggtcgg	6720
taggtacct	acatgtaaaa	ttcathttaca	gctttgtaag	ggcagcagcc	tttttccacg	6780
ggtaaagcgt	aagcggcagc	tgcgttcctg	agactcgtgt	gcgtgagagc	aaaggatatct	6840
cggaccatga	acttcacaaa	ctgaaattta	tagtctgctg	aggtgggagt	gccttcctcc	6900
cagtctttga	agtcttttcg	agcagcatgt	gtggggttag	gcagagcaaa	agttaagtca	6960
ttgaaaagaa	ctttgccaca	acgaggcatg	aaatttctac	tgactttaaa	agcagctgga	7020
ataccttggt	tgttggtta	gacttggtcg	gctagaacaa	tctcatcaaa	gccgtttatg	7080
ttgtgcccta	cgacatagac	ttccaagaaa	gtcgggtgcc	ctttgagttc	aagcgtagac	7140
agttcctcga	aaggaatgtc	gctggcatgg	acatagccca	gtttgaggca	gagggtttct	7200
aagcacggat	tatctgccag	gaactggcgc	caaagcaaa	tgctggcagc	ttcttgaagg	7260
gcatcccgat	actgtttaaa	caagctgcct	actttgtttc	tttgccgggt	gaggtagtag	7320
aaggatattg	cttgctttgg	ccagcttgac	cacttttgct	ttttagctat	gttaacagcc	7380
tgttcgcata	gctgcgcgtc	accaaacaaa	gtaaacacga	gcataaaagg	catgagttgc	7440
ttgccaaagc	taccgtgcca	agtgtatgtt	tccacatcat	agacgacaaa	gagggcgccg	7500
gtgtcggggg	gagcggccca	ggggaaaaaac	tttatttctt	cccaccagtc	cgaagattgg	7560
gtgtttatgt	ggtgaaagta	aaagtcccg	cggcgagtg	tgacgggtgtg	cgtctgctta	7620
aaatacgaac	cgcagtcggc	acatcgctgg	acctctgcga	tggtgtctat	gagatagagc	7680
tttctcttgt	gaataagaaa	gttgaggggg	aagggaaagg	gcggcctgtc	agcgcggggc	7740
gggatgcttg	taattttcag	cttccccctg	tatgttttgt	aaacgcacat	atttgcggtg	7800
cagaaccgga	cgagcgtgtc	ttggaatgaa	aggatatatt	ctggttttaa	atcaaatggg	7860
cagtgtccca	agtgcagttc	aaaaagggtt	cggagactgc	tggaacgcgc	tgctgatac	7920
ttgacttcca	gggtggtccc	gtcttcagtc	tgaccgtgca	gccgtagggg	actgcgtttg	7980
gcgaccagg	gcccccttgg	ggctttcttt	aaaggggacg	tcgagggccg	aggggaggcc	8040
tttgcccttc	gggcctgagg	ggcggtagct	ggaccggatc	gttgagttcg	ggcatgggtt	8100
cagctgtgtg	gcgaggtct	gatgcgtgct	gcacgactct	gcgggtgatt	ctctgaatct	8160
ccgggtgttg	ggtgaatgct	actggccccg	tcaacttgaa	cctgaaagag	aggctcgacag	8220
agttaataga	tgcatcggtt	agctccgcct	gtctaataat	ttcttccacg	tcaccgctgt	8280
ggtctcggta	agcaatgtct	gtcataaacc	gttcgatctc	ttcctcgctc	agttctccgc	8340
gaccagctcg	gtggaccgtg	gctgccaaag	ccgtgcta	gcgtcgcatg	agctgggaaa	8400
aggcattggt	tcccggttca	ttccacactc	tgctgtatat	aacagcgcca	tcttcgtctc	8460
gggctcgcat	gaccacctgg	cccaagttta	gctccacgtg	gcgagcaaa	acggggctga	8520

ggcggaggtg	gtggtgcaga	taattgagag	tggtggctat	gtgctccacg	atgaagaagt	8580
agatgaccca	tctgcggatg	gtcgactcgt	taatgttgcc	ctctcgctcc	agcatgttta	8640
tggcttcgta	aaagtccaca	gcgaagttaa	aaaactgctc	gttgcgggcg	gagactgtca	8700
gctcttcttg	caggagacga	atgacttcgg	ctacggcggc	gcggacttct	tcggcaaagg	8760
agcgcggcgg	cacgtcctcc	tctcctctct	cttccccctc	cagcgggggc	atctccagct	8820
ctaccggttc	cgggctgggg	gacaggggaag	gcggtgcggg	ccgaacgacc	cgtcggcgctc	8880
gggtgggcaa	ggggagactc	tctatgaatc	gctgcacccat	ctcgccccgg	cgtatccgca	8940
tctcctgggt	aacggcacgc	ccgtgttctc	ggggtcggag	ctcaaaaagct	ccgccccgca	9000
gttcggtcag	aggccgcgcc	gcgggctggg	gcaggctgag	tgcgtcaata	acatgcgccca	9060
ccactctctc	cgtagaggcg	gctgtttcga	accgaagaga	ctgagcatcc	acgggatcgc	9120
tgaagcgttg	cacaaaagct	tctaaccagt	cgcagtcaca	aggtaggctg	agcatagggtg	9180
aggctcgctc	ggtgttggtt	ctgtttggcg	gcgggtggct	gaggagaaaa	ttaaagtacg	9240
cgcaccgcag	gcgcgggatg	gttgtcagta	tgatgagatc	cctgcgaccc	gcttgttgga	9300
ttctgatgcg	gtttgcaaag	ccccaggctt	ggtcttgga	tcgcccagggt	tcatgcactg	9360
ttcttgagg	aatctctcta	cgggcacggt	gcggcgctgc	gggggcaggg	tcagccattt	9420
cgggtgcgtcc	aaacccacgc	aatggttgga	tgagagccaa	gtccgctact	acgcgctctg	9480
ctaggacggc	ttgctggatc	tgccgcagcg	tttcatcaaa	gttttccaag	tcaatgaagc	9540
ggtcgtaggg	gccccggttt	atggtgtagg	agcagtttgc	catggtggac	cagtccacaa	9600
tctgctgata	tacccgcacc	gtttctcggt	acaccagtcg	gctataggct	cgctctcga	9660
aaacatagtc	gttgcaaacg	cgcaccacgt	attggtagcc	gattaggaag	tgcggcggcg	9720
ggtataagta	gagcggccag	ttttgcgtgg	ccggctgtct	ggcgcccaga	ttccgtagca	9780
tgagtgtggg	gtatcggtac	acgtgacgcg	acatccagga	gatgcccgcg	gccgaaatgg	9840
cggccctggc	gtactcccgg	gcccggttcc	atatattcct	gagaggacga	aagattccat	9900
ggtgtgcagg	gtctgccccg	taagacgcgc	gcaatctctc	gcgctctgca	aaaaacatac	9960
agatgaaaca	tttttggggc	ttttcagatg	atgcatcccg	ctttacggca	aatgaagccc	10020
agatccgcgg	cagtggcggg	ggttcctgct	gcggccgcgg	gcgcgagcgt	tgactcaggc	10080
ggtactaccg	cgccccctgg	tgctcgagtgc	ggcgaggggg	aagggtagc	tcggctgtac	10140
gcgcacccgg	acacacaccc	gcgcgtgtgc	gtgaagcgcg	atgcggcgga	ggcgtagctt	10200
ccccgggaga	acttattccg	cgaccgcagc	ggggaggaac	ccgaagggag	ccgagaccta	10260
aagtacaagg	ccggtcggca	gttgcgcgcc	ggcatgcccc	gaaagcgggt	gctgaccgaa	10320
ggggactttg	agggtgatga	gcgcactggc	atcagctcag	ccaaagccca	catggaggcg	10380
gccgatctag	tgccgggctta	cgagcaaacg	gtgaagcaag	aggctaattt	tcaaaagtca	10440
tttaataaac	aatgcgggac	actgatctcc	cgcagggaga	ccaccctggg	tttgatgcac	10500
ttgtgggact	ttgcggaggc	atacgcgcag	aaccccgcca	gcaagaccct	tacggcccaa	10560
gtctttctca	tcgtgcagca	cttgcaagat	gagggcattt	ttgggggaagc	tttcttaagc	10620
atagcagagc	ccgagggacg	atggatgcta	gatctgctaa	acatatgca	gtccattgtg	10680
gtgcaagagc	gccagctttc	gctatctgaa	aaggtagccg	cggtgaacta	ctccgtagtt	10740
accctgggca	aacattatgc	ccgcaagatc	tttaagagcc	cctttgtgcc	gcttgacaag	10800
gaggtgaaga	tcagtacatt	ttatatgcgc	gcggtgctta	aggtcctggg	tctaagtcac	10860
gacctgggca	tgtacagaaa	cgaaaagggtg	gagaagctag	ctagcatagg	caggcgttcg	10920
ggagatgagc	gacgcggagc	tgctgttcaa	cctccgcccgc	gcactaacca	ctggcgattc	10980
tgaagcattc	gatgaaggcg	gggactttac	ctgggctccg	ccaactcgcg	cgaccgcggc	11040
ggccgctttg	ccggggccccg	agtttgagag	tgaagagacg	gacgatgaag	tcgacgaatg	11100
agtgatgcgg	acccccgtat	ctttcagctg	gtcagtcggc	aagagaccgt	agccatggcc	11160
gaagcgcccc	gaagcctggg	ccccgccccct	tccaatccta	gtttgcaggc	tttatcccaa	11220
agccagccca	gcgcggagca	ggagtggcac	ggcgtgctgg	agagagtcac	ggcccttaac	11280
aaaaatggag	actttggctc	gcagccccag	gcgaaccggt	ttggagccat	cctcgaagcc	11340
gtggtgcccc	cgcgctccga	tcccacccat	gaaaaagtgc	tagctattgt	gaatgcgctc	11400
ttggagactc	aggccatccg	tcgcgatgag	gccggacaga	tgtacaccgc	gctgttgacg	11460
cgggtggcca	gatacaacag	tgtgaatgtg	cagggcaatt	tggacaggct	gattcaggac	11520
gtgaaggagg	ctctggcgca	gcgcgagcgc	accgggcccgc	gggcccggcct	agggctctgtg	11580
gtagccttga	atgccttcct	gagcacacag	ccagcggtgg	tggagagggg	ccaggagaac	11640
tatgtggcct	ttgtgagcgc	cttaaaaactc	atggtgaccg	aggcgccgca	gtctgagggtt	11700
taccaggccg	gacctagttt	cttttttcaa	accagccggc	acggttcgca	gacggtaaac	11760
ctcagtcagg	cctttgataa	cttgcgaccc	ctctggggcg	tgcgcgcgcc	agtacacgag	11820
cgtactacca	tctcctctct	gtcacacca	aacacccgct	tgctcttgct	cctcattgcg	11880
ccctttacgg	acagcgtggg	catatcccg	gacagttacc	tggggcatct	gctgaccctt	11940

taccgggaga	ccataggtaa	cactcgagtt	gatgagacca	cgtacaacga	gatcacggaa	12000
gtgagtcggg	ccctgggcgc	cgaagacgcg	tctaacttgc	aagccactct	caactactta	12060
ctcacaata	agcagagcaa	gttgccacag	gagttttctc	tgagtcccga	agaggagcgg	12120
gtgctgcgct	acgtgcagca	atctgtcagt	ttatttttaa	tgcaggatgg	acacacggcc	12180
accactgctc	tagatcaggc	tgcggccaac	atagcgccct	cgttttacgc	gtcccaccgc	12240
gactttataa	accgactgat	ggactatttc	cagcgagctg	cggctatggc	ccctgactac	12300
tttttacagg	ctgttatgaa	tccccactgg	ctcccgccgc	cgggtttctt	tactcaggag	12360
tttgactttc	cggagcccaa	cgaaggcttc	ctgtgggatg	atgtggacag	cgcgctccta	12420
cgcgcgcacg	taaaagaaga	ggaggatcaa	ggagctgtgg	gcggcacgcc	ggcggtctcg	12480
gcgcccgcgt	ctcgcgcgca	cacaccaccg	ccgcccgcgc	gtgccgcgga	cctctttgct	12540
cctaacgcct	tccgcaatgt	gcaaaataac	ggcgtggatg	aacttattga	cggcttaagc	12600
agatggaaga	cttacgcca	ggagaggcag	gaagtcgttg	agcggcacag	gcgcagagag	12660
gcgcgtcgcc	gggcgcgcga	ggcgcgtcta	gagtcgagcg	atgatgacga	cagcgacctt	12720
gggcccgtttc	tacggggcac	ggggcacctc	gttcacaacc	agtttatgca	tctgaagccc	12780
cgggggtcccc	gccagttttg	gtaaccgcac	tgtattaagc	tgtaagtcct	ctcatttgac	12840
acttaccaaa	gccaatggct	tgcttcgcct	ctgacacttt	ctctcccccc	acacgcggca	12900
ccctacagcc	tagggggcgat	gctccagccc	gaactgcagc	caattccgct	gtcccgcgcg	12960
cggcttatga	ggcgggtggtg	gctggggcct	tccagacgct	ttctcttcga	cgagatccac	13020
gtcccgcgcg	gatatgctgc	cgcgtctgcg	gggagaaaca	gtatccgtta	ttccatgctg	13080
cccccgttgt	atgacaccac	gaagatatac	cttatcgaca	acaaatcttc	agacatccaa	13140
actctgaatt	acaaaacga	ccactcagat	tacctacta	ccatcgtgca	gaacagcgac	13200
ttcacgcccc	tggaggctag	caaccacagc	atcgagctag	acgagcggtc	ccgctggggc	13260
ggaaacctta	aaaccatcct	ttatacaaac	ctgcctaata	tcaccagca	catgttttct	13320
aactcttttc	gggtaaagat	gatggcctca	aaaaagacg	gcgtgcccc	gtacgagtgg	13380
ttccccctaa	ggctgcccga	gggtaacttt	tctgagacta	tggtcattga	cctcatgaac	13440
aatgccatcg	tagagctgta	cttggctttg	gggcgcagg	agggcgtgaa	ggaagaggac	13500
atcggggtaa	agatcgatac	gcgcaacttt	agtctgggct	atgaccgcga	gaccagttta	13560
gtgacgcccg	gcgtatacac	caatgaagct	atgcatgcgg	acatcgtggt	gctgccgggc	13620
tgtgctatag	actttacgca	ctcccgatta	aacaacctct	tgggcatacg	caagcgtttt	13680
ccgtaccaag	agggcttcgt	catctcctat	gaggacctta	aggggggtaa	catccccgct	13740
ttgatggacg	tggaggagtt	taacaagagc	aagacgggtc	gagctttgcy	ggaggacccc	13800
aaggggcgca	gttatcagct	gggcgaagac	ccagaagcca	gagaaaacga	aaccgcctac	13860
cgcagctggg	acctggctta	caattacggg	gaccagaaaa	aaggggtgcy	ggccaccaca	13920
ctgctgacta	ccggcgacgt	gacctgcggg	gtggaacaga	tctactggag	cttgccggac	13980
atggcactgg	accagtcac	tttcaaggct	tcgctgaaaa	ctagcaatta	ccccgtggtg	14040
ggcacagaac	ttttgccact	ggtgccgcgt	agcttttata	acgctcaggc	tgtgtactca	14100
cagtggatac	aagaaaaaac	taaccagacc	cacgttttca	atcgctttcc	cgaaaatcag	14160
atcttggtgc	ggccccctgc	gcctaccatc	acgtccataa	gtgaaaataa	gcccagcttg	14220
acagatcacg	gaatcgtgcc	gctccggaac	cgtctggggg	gcgtgcaacg	tgtgactttg	14280
actgacgcgc	ggcgaagatc	ctgcccctac	gtctacaaga	gcttaggcac	tgtgacgcgc	14340
caagtgtat	ctagccgcac	gttttaagca	gacaggggca	cagcagccgt	ttttttttt	14400
tttttttcgc	tccaccaggg	actgtcagga	acatggccat	tctaactctc	cctagcaata	14460
acacgggctg	gggcctggga	tgcaataaga	tgtacggggg	cgctcgcata	cgttcagact	14520
tgcattccagt	gaagggtgcg	tcgcattatc	gggcgcgctg	gggcagccgc	accggtcggg	14580
tgggtcgccg	cgcaaccgca	gcttttagccg	atgccgtcgc	ggccaccggt	gatccggtgg	14640
ccgacacaat	cgaggcggtg	gtggctgacg	cccgcagta	ccggcgccgc	agacggcgag	14700
gggtgcgcgc	agtcagaagg	ttgcgtcgga	gccccgcac	tgccctgcag	cgacgggttc	14760
gtagcgtacg	ccgacaagtg	gcgagggccc	gcaggggtgg	ccggcgcgcg	gccgctatcg	14820
cagcagacgc	ggccatggcc	atggcggcgc	cagctcggcg	acgccgtaac	atctactggg	14880
tacgcgatgc	ggcaaccgga	gcccgcgttc	cggtgacaac	ccggcctacg	gtcagcaaca	14940
ccgtttgaaa	ttgtctgtac	ttttttttgc	ttcaataaaa	gcccgcgcgc	tgatcagcca	15000
caccttgtca	cgcagaattc	tttcaaacca	ttgcgtcttc	agcgcgcgcg	ccgataaacc	15060
cactgtgatg	gcctcctctc	ggttgattaa	agaagaaatg	ttagacatcg	tggcgccctga	15120
gatttacaag	cgcaaacggc	ccaggcgaga	acgcgcagca	ccgtatgctg	tgaagcagga	15180
ggagaagcct	ttagtaaagg	cggagcgcaa	aattaagcgc	ggctccagaa	agcgggcctt	15240
gtcaggcggt	gacgttcctc	tgcccgatga	cggctttgag	gacgacgagc	cccacataga	15300
atgtgtgtct	gcgcgcgcgc	ggccctacca	gtggaagggc	agggcggtgc	gccgggtttt	15360

gcgtcccggc	gtggccgtta	gtttcacgcc	cggcgcgcgc	tccctccgtc	cgagttccaa	15420
gcgggtgtat	gacgaggtgt	acgcagacga	cgacttctta	gaagcggccg	cgccccgtga	15480
gggggagttt	gcttacggaa	agcggggacg	cgaggcggcc	caggcccagc	tgctaccggc	15540
tgtggccgtg	ccggaaccga	cttacgtagt	tttggatgag	agcaacccca	ccccgagcta	15600
caagcctgta	accgagcaga	aagttattct	ttcccgcaag	cggggtgtgg	ggaaggtaga	15660
gcctaccatc	caggtttttag	ctagcaagaa	gcggcgcatg	gccgagaatg	aggatgaccg	15720
cggggcccgg	tccgtggccg	aagtgcagat	gcgagaagtt	aaaccggtaa	ccgctgcctt	15780
gggtattcag	accgtggatg	ttagcgtgcc	cgaccacagc	actcccatgg	aggctcgtgca	15840
gagtcctcagt	cgggcggttc	aagtagctca	acgcctgacc	caacaacagg	tgccggccttc	15900
ggctaagatt	aaagtggagg	ccatggatct	ttctgtctcc	gtagacgcaa	agcctcttga	15960
cttaaaaccc	gtggacgtaa	agccgacccc	gaccttcgtg	cttcccagct	ttcgttcaact	16020
cagcacccaa	actgactctt	tgcccgcggc	agtggctcgtg	ccgcgcaagc	cccgcgtgca	16080
ccgtgctact	aggcgtactg	cgcgcggtct	gctgccctat	taccgcctgc	atcctagcat	16140
cacgcccaga	ccgggttacc	gaggatctgt	ctacacgagc	tcgggtgtgc	gcctgcccgc	16200
cgtccggggc	ccgcgcgtgc	cgccgtaccc	gcagggcgac	tccccgcctc	agcgtcgccg	16260
cgcccgccgg	gctgctgtcc	ggcgtgcgct	atcacccctag	catccgcca	gcggccacag	16320
taaccgggct	ccgcgcgttaa	gcgctgtgaa	actgcaacaa	caacaacaaa	aataaaaaaa	16380
agtctccgct	ccactgtgca	ccgttgtcca	tcggctaata	aagtcccgct	ttgtgcgcgg	16440
caggaaccac	tatccgtaac	ctgcgaaaat	gagtcctccg	ggaaatctga	cttacagact	16500
gagaataacc	gtcgccctca	gtggccggcg	ccggcgccga	acaggcttgc	gaggagggtc	16560
tgcgtacctg	ctcgcccgcc	gcagaaggcg	cgccggcgcc	ggccgcctgc	gcgggggctt	16620
ccttcccctc	ctggctccca	tcattgcagc	cgccatcggc	gcaatccccg	gcatcgcatc	16680
agtggccatt	caggcggtccc	acaacaaata	gggacagtg	aaagaaagct	caatctcaat	16740
aaaacaaacc	gctcgatgtg	cataacgctc	tcggcctgca	acttctgctg	cttacgtctt	16800
tgaccaaaag	cactactgtt	ttccttttac	ccagagccgg	cgccagcccc	acacagcttg	16860
ttaacacgcc	atggacgaat	acaattacgc	ggctcttgct	ccccggcaag	gctcccgcac	16920
catgctgagc	cagtgggtccg	gcatcggcac	gcacgaaatg	cacggcgga	gttttaatat	16980
gggcagtttg	tggagcggga	tcaggaatgt	gggcagcgcg	ttaagaactg	gggtctctcg	17040
gcctggcaca	gcaatgcggg	caagcgttgc	gcgccagct	gaaaaagacg	ggcttgcaag	17100
aaaagatatt	gagggcggtta	gcgcgggtat	ccacggagcc	gtggatctgg	gccgtcagca	17160
gctagagaaa	gctattgagc	agcgccctaga	gcgtcgcccc	accgctgccc	gtgtggaaga	17220
ccttccgctt	cccccgggaa	cagtcttaga	agctgatcgt	ttaccgcccc	cctacgcoga	17280
agcgggtggc	gagcgcccg	cgccggctga	ggttctctcg	cccgcaccc	caaagccgc	17340
ggtggcggtg	gtgaccttgc	ccccgaaaaa	gagagtgtct	gaagagcctg	tggagggaagt	17400
tgtgattcgt	tcctccgcac	cgccgtcgta	cgacgaggtt	atggcacccg	agccgactct	17460
ggtagccgag	cagggcgcga	tgaagcag	gcccgtgatt	aagccggctc	aaccttttac	17520
cccagctgtg	cacgaaacgc	aacgcatagt	gaccaacttg	ccaatcacca	cagctgtgac	17580
acggcgacgc	gggtggcagg	gcactctgaa	tgacatcg	ggcctcggcg	ttcgtaccgt	17640
gaagcgccgg	cgggtgctatt	gagggggcgc	gcagcggtaa	taaagagaac	ataaaaaagc	17700
aggatttgtg	tttttgttta	gcggccactg	actctccctc	tgtgtgacac	gtcctccgcc	17760
agagcgtgat	tgattgaccg	agatggctac	cccgctgatg	ctgccgcaat	ggtcctactg	17820
cacatcgccg	gtcaggacgc	gtccgagtac	ctgtcccccg	gcttggtgca	attcgcacaa	17880
gccaccgaat	cctactttaa	cattgggaac	aagtttagaa	accccaccgt	cgccccgcag	17940
cacgatgtca	ccacggagcg	ttcgacgcgt	ctgcagctcc	gcttcgtgcc	cgtagaccgg	18000
gaggacacac	agtactccta	caaaacccgc	ttccagctag	ccgtgggcga	caaccgggtg	18060
ctggacatgg	ccagcacgta	ttttgacatc	cgcggtacgc	tggagagggg	cgccagtttc	18120
aagccttaca	gcggcacggc	ctacaactcc	tttgccccca	acagtgcctc	taacaatacg	18180
cagtttaggc	aggccaacaa	cggtcaccc	gctcagacca	tagctcaagc	ttcttaagtg	18240
gctaccatcg	gcgggtgcaa	caatgacttg	caaattgggtg	tggacgagcg	tcagcagccg	18300
gtgtatgcga	acactacgta	ccagccggaa	cctcagctcg	gcattgaagg	ttggacagct	18360
ggatccatgg	gggtcatcga	tcaagcagcg	gggcgggttc	tcagggaacc	tactcaaac	18420
ccctgctacg	gggtcctatgc	taagccgact	aacgagcagc	ggggcattac	taaagcaaac	18480
actcaggtgg	agaaaaagta	ctacagaaca	ggggacaacg	gtaaccgcga	aacagtgttt	18540
tatactgaag	aggctgacgt	gctaaccgcc	gacacccacc	ttgttcacgc	ggtaccggcc	18600
gcggatcggg	caaagggtgga	ggggctatct	cagcacgcag	ctcccaacag	gccgaacttt	18660
atcggtcttc	gggactgctt	tgtaggcttg	atgtattata	acagcggggg	caacctgggc	18720
gtcttagcgg	gtcaatctct	tcagctgaat	gccgtggtag	acctgcaaga	ccgcaaac	18780

gagctttcct	atcagatgct	tcttgcaaac	acgacggaca	gatcccgcta	ttttagcatg	18840
tggaaaccaag	ccatggactc	gtacgacccg	gaggtcaggg	tgatagataa	cgtgggcgta	18900
gaggacgaga	tgcctaatta	ctgctttccg	ttgtcggggg	ttcagattgg	aaaccgtagc	18960
cacgagggttc	aaagaaacca	acaacagtgg	caaaatgtag	ctaatagtga	caacaattac	19020
ataggcaagg	ggaacctacc	ggccatggag	ataaatctag	cggccaatct	ctggcgttcc	19080
tttttgtaga	gtaatgtggc	gttgtagctt	ccagacaacc	ttaaattcac	ccctcacaac	19140
attcaactcc	cgcctaacac	gaacacctac	gagtacatga	acgggcgaat	ccccgttagc	19200
ggccttattg	atacgtacgt	aaatataggc	acgcggtggt	cgcccgatgt	gatggacaac	19260
gtgaatccct	ttaaccacca	ccgcaactcg	ggcctgcgtt	accgctccca	gctgctgggc	19320
aacggccgct	tctgcgactt	tcacattcag	gtgccacaaa	agttttttgc	tattcgaaac	19380
ctgcttctcc	tgcgcggcac	gtacacttac	gagtggctct	ttagaaagga	cgtaaacadg	19440
atccttcaga	gcactctggg	caatgatctg	cgggtcgatg	gggccactgt	taatattacc	19500
agcgtcaacc	tctacgccag	cttctttccc	atgtcacata	acaccgcttc	cactttggaa	19560
gctatgctcc	gcaacgcac	taatgaccag	tcttttaatg	actatctctc	ggcggctaac	19620
atgttgtagc	ccattccgcc	caatgccacc	caactgcaca	tccctcacg	caactgggca	19680
gcgttcctgt	gctggagtct	caccgggcta	aaacagaggg	agacaccggc	gctgggggtcc	19740
ccgttcgata	cctatttcac	ctattcgggc	accatcccg	acctggacgg	cactttttac	19800
ctcagccaca	cctttcgcaa	ggtggccatc	cagtttgact	cttctgtgac	ctggcccggc	19860
aatgacaggc	ttttaacccc	taacgagttc	gaaataaaaa	taagtgtgga	cgggtgaaggc	19920
tacaacgtgg	ctcagagcaa	tatgactaag	gactggttcc	tgggtcgagat	gctagcgaat	19980
tacaacatag	gctaccaggg	atatcacctg	cccccgact	acaaggacag	gacattttcc	20040
ttcctgcata	acttcatacc	catgtgccga	caggttccca	accagcaac	cgagggtctac	20100
tttggtactag	gcatagtga	ccatagaaca	actccggctt	attgggtttcg	attctgccgc	20160
gctccgcgcg	agggccaccc	ctacccccaa	ctggccttac	ccctcattg	ggacccacgc	20220
catgcctcc	gtgaccaga	gagaaagttt	ctctgcgacc	gcacctctg	gcgaatcccc	20280
ttctcctcga	acttcatgtc	catgggggtcc	ctcacagatc	tcggacagaa	cctactgtat	20340
gccaatgccg	cgcagccct	agacatgact	tttgagatgg	atcccatcaa	tgagccact	20400
ctgctgtacg	ttctgtttga	ggtgtttgac	gtggcccgcg	ttcaccagcc	ccacagaggc	20460
gtgatcgaag	tgggtgactt	gagaacgcc	ttctcagccg	gcaacgctac	cacataagtg	20520
ccggcttccc	tctcaggccc	cgcgatgggt	tctcgggaag	aggagctgag	attcatcctt	20580
cacgatctcg	gtgtggggcc	atacttctc	ggcactttcg	ataaacactt	tccgggggttc	20640
atctccaaag	accgaatgag	ctgtgccata	gtcaacactg	cgggacgcga	aaccgggggc	20700
gtgcattggc	tggccatggc	ttggcaccca	gcctcgcaga	cctttttacat	gtttgacct	20760
ttcggtttct	cggatcaaaa	gctaaagcaa	atttacaact	ttgagtatca	gggcctccta	20820
aagcgcagcg	ccctgacttc	cactgctgac	cgtgcctga	cccttattca	aagcactcaa	20880
tctgtccagg	gacccaacag	cgcgcctgc	ggtctgttct	gctgcatgtt	cctccacgcc	20940
tttgtccgct	ggcgcgttag	ggccatggac	aacaatccca	ccatgaacct	catccacgga	21000
gttcccaaca	acatgtttga	gagccccagc	tcccaaatg	tgtttttgag	aaaccagcaa	21060
aatctgtacc	gtttcctaag	acgccactcc	ccccattttg	ttaagcatgc	ggctcaaatt	21120
gaggctgaca	cgccttttga	taaaatgtta	acaaattaga	cogtgagcca	tgattgcaga	21180
agcatgtcat	ttttttttta	ttgtttaaaa	taaaacaac	acataacatc	tgccgcctgt	21240
cctcccgtag	tttcttctgc	tttatttgca	aatggggggc	accttaaaac	aaagagtcac	21300
ctgcatcgta	ctgatcgatg	ggcagaataa	cattctgatg	ctggtactgc	gggtcccagc	21360
ggaattcggg	aatggtaatg	ggggggctct	gtttaaccag	cgcggaccac	atctgcttaa	21420
ccagctgcaa	ggctgaaatc	atatctggag	ccgaaatctt	gaaatcgag	tttcgctggg	21480
cattagcccg	cgtctgcggg	tacacagggt	tacagcactg	aaatactaac	accgatgggt	21540
gttctacgct	ggccaggagt	ttgggatctt	ctacgaggct	cttatctacc	gcagagcccg	21600
cgttgatatt	aaagggcggt	atcttgcata	cctgacggcc	taggaggggc	aattgggagt	21660
gaccccgagt	acaatcacac	tttaaaggca	taagcagatg	agttccggca	ctttgcatcc	21720
tggggtaaca	ggctttctga	aaggctcatg	tctgccagaa	agcctgcaaa	gccttggggc	21780
cctcgctgaa	aaacatacca	caagactttg	aggtaaagct	gccggccggc	aaagcggcgt	21840
caaagtgaca	gcaagccgcg	tcttcattct	ttagctgcac	tacgttcata	ttccaccggg	21900
tgggtggtgat	ctttgtctta	tgcggggtct	cttttaagc	ccgctgcccc	ttttcgctgt	21960
tcacatccat	ctctatcact	tggcttttgg	taagcatagg	caggccatgc	aggcagtga	22020
gggccccgct	tccccctcg	gtacactggg	ggcgccagac	cacacagccc	gtggggctcc	22080
acgaggctcg	ccccaggcct	gcgactttta	acacaaaatc	atacaagaag	cggcccataa	22140
tagttagcac	ggttttctga	gtactgaaag	taagaggcag	gtacacttta	gactcattaa	22200

gccaaagcttg	tgcaaccttc	ctaaaacact	cgagcgtgcc	agtgtcgggc	agcaaggtta	22260
agtttttaaat	atccactttc	aaaggcacac	acagccccac	tgctaattcc	atggcccgc	22320
gccaaagcaac	ttcgtcggct	tccagcaagg	cccggctggc	cgccggcagg	gcgggagcgg	22380
cggcctcagc	ggctggggct	gaaggtttga	aaatcttggc	gcgcttaacg	gctgtgacat	22440
cttcggcggg	gggctcagcg	atcggcgcgc	gccgtttgcg	gctgactttt	ttccggggcg	22500
tctcatctat	cactaagggg	ttctcgtccc	cgctgctgtc	agccgaactc	gtggctcgcg	22560
ttaagtccac	gctgcgattc	attattctct	cctagataac	gacaacaaat	ggcagagaaa	22620
ggcagtgaaa	atcagcggcc	agagaacgac	actgagctag	cagcggtttc	agaagcccta	22680
ggcgcgggcg	cttcggcccc	ctcacgtaac	tccccgactg	acacggattc	aggggtggaa	22740
atgacgcccc	ccagcagccc	cgagccgccc	gccgtcctcc	caagttcgcc	tgccgcagca	22800
cctgccccct	agaagaacca	ggaggagctc	tcttcccccg	agcccgcggt	agcagcagcg	22860
gagccagaag	ccgcttcgcg	gcccagacca	cccacaccca	ccgttcagg	cccgcgggag	22920
ccgagcgagg	atcaacctga	cggaccgcgc	acgaggcctt	cgtacgtgag	cgaggattgc	22980
ctcatccgcc	atatctctcg	ccaggctaac	attgttagag	acagcctggc	agaccgctgg	23040
gagttagagc	ccaccgtgtc	ggctctctcc	gaggcttacg	aaaagctcct	cttttgtccc	23100
aaggtaccac	ccaagaagca	agagaatggc	acttgcgaac	ctgaacctcg	cgttaatttt	23160
ttccccacct	ttgtagtggc	cgaaacttta	gccacgtacc	acatcttttt	ccaaaaccaa	23220
aaaatcccc	tgtcttgcg	cgccaaccgc	acccacacag	acaccatcat	gcacctctac	23280
tcgggggact	ccttaccgtg	cttccccacg	ctgcagctgg	tcaacaaaat	ctttgaaggc	23340
ttgggctcag	aggagcggcg	cgcagccaac	tcgctgaaag	atcaagagga	taacagcgcg	23400
ttagttgagc	tcgaagggga	cagtccccga	ctggctgtgg	ttaagcgcac	actgtctttg	23460
acacatttcg	cctaccctgc	cataacacta	ccgcctaagg	tgatggcagc	tgtcactggc	23520
agcctcattc	atgaatcagc	agcgaccgcc	gaaccggaag	ctgaggcgct	gccagaagcc	23580
gaggagcccc	tggttagtga	ccctgaactt	gctcgctgg	tggggctcaa	cttacaacag	23640
gagcccaggg	ccacggcccc	ggctttggaa	gaaagacgca	agattatggt	ggcagtatgc	23700
ttagtccac	ttcagctcga	gtgcctgcac	aagttttttt	cttcagagga	tgtcatcaaa	23760
aagctgggag	agagcctcca	ctacgccttt	cgccacggct	acgtgcgcca	agcctgctcc	23820
atttctaacg	tggaaactaac	gaacatcgct	tcatacctgg	gtatcttgca	cgaaaaccgc	23880
ttgggacaga	gtaccctaca	cgccaccctt	aaagacgaga	accgcagaga	ctacatcaga	23940
gacacagtct	ttctctttct	ggtttatact	tggcagactg	ccatgggcat	ttggcagcag	24000
tgctcgaga	ctgagaacgt	aaaagaactt	gaaagcgtct	tgcaaaaaag	caagagggct	24060
ctctggacgg	gcttcgacga	gctcaccata	gctcaagacc	tagctgacat	agtgttcccc	24120
cccaaattct	tgcacacctt	gcaagccggc	ctgccagacc	ttacatccca	gagtctcctt	24180
cacaactttc	gctccttcat	tttcgaacgc	tcgggcattc	taccgcgcat	gtgcaatgca	24240
ctgcccaccg	acttcatccc	tatcagctac	cgggagtgcc	ctccaacttt	ctgggcctac	24300
acctacctct	ttaaactggc	caattacctc	atgtttcact	ccgacatcgc	ttacgatcgg	24360
agcggccccg	gtctcatgga	atgctactgt	cgctgcaacc	tgtgcagtc	tcaccgctgc	24420
ttggcgacca	accccgccct	gctcagcgag	acccaagtta	tcgggtacct	cgagattcag	24480
ggccctcctg	ctcaagacgg	acagccgacc	aaaccgcccc	tcaggctgac	tgcaggctctc	24540
tggacttcgc	cctacctgcg	caaatttgta	ccgcaagact	tcaacgcccc	caaaatagcc	24600
ttctacgaag	accaatccaa	aaagccgaaa	gtgaccccc	gcgcttgtgt	catcactgaa	24660
gaaaaagttt	tagcccaatt	gcatgaaatt	aaaaaagcgc	gggaagactt	tcctcttaaa	24720
aaggggcacg	gagtgatatct	ggaccctcag	accggcgagg	agctgaacgg	acccgcaccc	24780
tccgcagcta	ggaatgaaac	cccgcagcat	gtcggcagcc	gggccttcgc	cggctcaggc	24840
ttcggagggc	caacagctgc	cgccacagac	agcggggctg	cagccgagca	agagggctgt	24900
gaggaaggta	gtagcttctc	tgaatccac	cgcgcctcg	gaagacatat	ccgaggggga	24960
ggaaggcttc	cccctgacgg	acgaggaaga	cggggacacc	ctggagagcg	atttcagcga	25020
cttcacggac	gaagacgtcg	aggaggagga	tatgatttcg	ataccccgcg	accaggggca	25080
ctccggcgag	ctcgaggagg	gcgaaattcc	cgcaacggta	gcggcgacgg	cggcgaagaa	25140
gggccagggg	aagaagagta	ggtgggacca	gcaggtccgc	tccacagcgc	ctctaagggg	25200
cgctagagg	aagagcagct	acagctcctg	gaaacccctc	aagccacta	tcctttcatg	25260
cttactgcag	agctccggca	gactgcctt	cactgcgcgc	tatctgcttt	ttcgccatgg	25320
cgtgtccgtt	ccctccaggg	taattcatta	ctataattct	tactgcagac	ccgaagctga	25380
ccaaaaccgc	cactcagagc	aaaaagagcc	gccggagtgc	cagcgcggcg	cgcctcgc	25440
ctcctcctct	tcctcccaag	cgtgctcggg	cgcgccgcgc	ccccaaaggc	cagcgcctac	25500
aggccgacga	cgcaagcacc	gaggggcgcg	acaagcttcg	ggagctgac	tttccactc	25560
tctatgccat	attccaacaa	agtcgcgctc	agcgggtgtc	cctcaaagt	aaaaatagat	25620

ccttacgttc	actgacgcgc	agctgcctct	accacaacaa	ggaggaacag	ctccagcgaa	25680
ccctagcaga	ctccgaggcg	cttctcagta	aatactgctc	tgcagctccg	acacgattct	25740
cgccgccctc	ttataccgag	tctcccgcga	aggacgaatc	cggacccgcc	taaactctca	25800
gcatgagcaa	agaaattccc	acaccttatg	tttggacctt	tcaacctcag	atgggagcgg	25860
ccgcaggtgc	cagtcaagat	tactcgaccc	gcatgaattg	gttcagcgcg	ggacctgata	25920
tgatccacga	cgttaacaac	attcgtgacg	cccaaaaccg	catccttatg	actcagtcgg	25980
ccattaccgc	cactcccagg	aatctgattg	atcccagaca	gtgggcccgc	cacctcatca	26040
aacaacccgt	ggtggggcacc	acccacgtgg	aaatgcctcg	caacgaagtc	ctagaacaac	26100
atctgacctc	acatggcgct	caaatcgcg	gcgaggcgcg	tgcgggcgat	tactttaaaa	26160
gccccacttc	agctcgaacc	cttatcccgc	tcaccgcctc	ctgcttaaga	ccagatggag	26220
tctttcaact	aggaggaggc	tcgcgttcac	ctttcaaccc	cctgcaaaca	gattttgcct	26280
tccacgccct	gccctccaga	ccgcgccacg	ggggcatagg	atccaggcag	tttgtagagg	26340
aatttgtgcc	cgccgtctac	ctcaacccct	actcgggacc	gccggactct	tatccggacc	26400
agtttatacg	ccactacaac	gtgtacagca	actctgtgag	cggttatagc	tgagattgta	26460
agactctcct	atctgtctct	gtgctgcttt	tccgctcaa	gccccacaag	catgaagggg	26520
tttctgctca	tcttcagcct	gcttgtgcat	tgtcccctaa	ttcatgttgg	gaccattagc	26580
ttctatgctg	caaggcccgg	gtctgagcct	aacgcgactt	atgtttgtga	ctatggaagc	26640
gagtcagatt	acaaccccac	cacggttctg	tggttggctc	gagagaccga	tggctcctgg	26700
atctctgttc	ttttccgtca	caacggctcc	tcaactgcag	cccccggggt	cgtcgcgcac	26760
tttactgacc	acaacagcag	cattgtgggtg	ccccagtatt	acctcctcaa	caactcactc	26820
tctaagctct	gctgctcata	ccggcacaaac	gagcgttctc	agtttacctg	caaacaagct	26880
gacgtcccta	cctgtcacga	gcccggcaag	ccgctcacc	tccgcgtctc	ccccgcgctg	26940
ggaactgccc	accaagcagt	cacttggttt	tttcaaaatg	tacccatagc	tactgtttac	27000
cgaccttggg	gcaatgtaac	ttggttttgt	cctcccttca	tgtgtacctt	taatgtcagc	27060
ctgaactccc	tacttattta	caacttttct	gacaaaaccg	gggggcaata	cacagctctc	27120
atgcactccg	gacctgcttc	cctcttttcag	ctctttaagc	caacgacttg	tgtcaccaag	27180
gtggaggacc	cgccgtatgc	caacgacccg	gcctcgccctg	tgtggcgccc	actgcttttt	27240
gccttcgtcc	tctgcaccgg	ctgcgcgggtg	ttgttaaccg	ccttcgggtcc	atcgattcta	27300
tccggtaccc	gaaagcttat	ctcagcccg	ttttggagtc	ccgagcccta	taccaccctc	27360
cactaacagt	ccccccatgg	agccagacgg	agttcatgcc	gagcagcagt	ttatcctcaa	27420
tcagatttcc	tgcgccaaaca	ctgccctcca	gcgtcaaagg	gaggaactag	cttccttgt	27480
catgttgcat	gctgtgaagc	gtggcctctt	ttgtccagtc	aaaacttaca	agctcagcct	27540
caacgcctcg	gccagcgagc	acagcctgca	ctttgaaaaa	agtcctctcc	gattcacctt	27600
ggtcaacact	cacgcgggag	cttctgtgcg	agtggcccta	caccaccagg	gagcttccgg	27660
cagcatccgc	tgttcctgtt	cccacgcgga	gtgcctcccc	gtcctcctca	agaccctctg	27720
tgcttttaac	tttttagatt	agctgaaagc	aaatataaaa	tgggtgtgctt	accgtaattc	27780
tgttttgact	tgtgtgcttg	atctctcccc	ctgcgcgcta	atccagtgcc	cctcttcaaa	27840
actctcgta	cctatgcgat	tcgcataggc	atattttcta	aaagctctga	agtcaacatc	27900
actctcaaac	acttctccgt	tgtaggttac	tttcatctac	agataaagtc	atccaccggt	27960
taacatcatg	aagagaagtg	tgccccagga	ctttaatctt	gtgtatccgt	acaaggctaa	28020
gaggcccaac	atcatgccgc	ccttttttga	ccgcaatggc	tttgttgaaa	accaagaagc	28080
cacgctagcc	atgcttgtgg	aaaagccgct	cacgttcgac	aagggaagggtg	cgctgaccct	28140
gggcgtcgga	cgccggcatcc	gcattaaccc	cgccgggctt	ctggagacaa	acgacctcgc	28200
gtccgctgtc	ttcccaccgc	tggcctccga	tgaggccggc	aacgtcacgc	tcaacatgtc	28260
tgacgggcta	tatactaagg	acaacaagct	agctgtcaaa	gtagggtccc	ggctgtccct	28320
cgactccaat	aatgctctcc	aggtccacac	aggcgacggg	ctcacggtaa	ccgatgacaa	28380
ggtgtctcta	aatacccaag	ctccccctctc	gaccaccagc	gcgggcctct	ccctacttct	28440
gggtcccagc	ctccacttag	gtgaggagga	acgactaaca	gtaaacaccg	gagcgggcct	28500
ccaaattagc	aataacgctc	tggccgtaaa	agtaggttca	ggatcacccg	tagatgtctc	28560
aaacagctc	gctgcatccc	tgggggacgg	tctagaaagc	agagataata	aaactgtcgt	28620
taaggctggg	cccgagctta	caataactaa	tcaagctctt	actgttgcta	ccgggaacgg	28680
ccttcagggtc	aacccggaag	ggcaactgca	gctaaacatt	actgccgggtc	agggcctcaa	28740
ctttgcaaac	aacagcctcg	ccgtggagct	gggctcgggc	ctgcattttc	cccctggcca	28800
aaaccaagta	agcctttatc	ccggagatgg	aatagacatc	cgagataata	gggtgactgt	28860
gcccgtggg	ccaggcctga	gaatgctcaa	ccaccaactt	gccgtagctt	ccggagacgg	28920
tttagaagtc	cacagcgaca	ccctccggtt	aaagctctcc	cacggcctga	catttgaaaa	28980
tggcgccgta	cgagcaaaac	taggaccagg	acttggcaca	gacgactctg	gtcgggtccgt	29040

ggttcgacaca	ggtcgaggac	ttagagttgc	aaacggccaa	gtccagatct	tcagcggaag	29100
aggcaccgcc	atcggcactg	atagcagcct	cactctcaac	atccggggcg	ccctacaatt	29160
ttctggaccc	gccttgactg	ctagtttgca	aggcagtggt	ccgattactt	acaacagcaa	29220
caatggcact	ttcggctctc	ctataggccc	cggaaatgtg	gtagaccaa	acagacttca	29280
ggtaaaccga	ggcgctgggt	tagtcttcca	aggaaacaac	cttgtcccaa	accttgcgga	29340
tccgctggct	atttccgaca	gcaaaattag	tctcagtcct	gggtcccgcc	tgacccaagc	29400
ttccaacgcc	ctgactttta	gttttaggaaa	cgggcttgaa	ttctccaatc	aagccgttgc	29460
tataaaaagc	ggccggggct	tacgctttga	gtcttccctc	caagctttag	agagcagcct	29520
cacagtcgga	aatggcttaa	cgcttaccga	tactgtgatc	cgcccccaac	taggggacgg	29580
cctagagggt	agagacaata	aaatcattgt	taagctgggc	gcgaatcttc	gttttgaaaa	29640
cggagccgta	accgcccggc	ccgttaaccc	ttctgcgccc	gaggcaccac	caactctcac	29700
tgagaacca	cccctccgag	cctccaactc	ccatcttcaa	ctgtccctat	cggagggtct	29760
ggttgtgcat	aacaacgccc	ttgtcttcca	actgggagac	ggcatggaag	taaatcagca	29820
cggacttact	ttaagagtag	gtcggggttt	gcaaatgcgt	gacggcattt	taacagttac	29880
acccagcggc	actcctattg	agcccagact	gactgcccac	ctgactcaga	cagagaatgg	29940
aatcgggctc	gctctcggcg	ccggcttgga	attagacgag	agcgcgctcc	aagtataaagt	30000
tgggcccggc	atgcgcctga	accctgtaga	aaagtatgta	accctgctcc	tgggtcctgg	30060
ccttagtttt	gggcagccgg	ccaacaggac	aaattatgat	gtgcgcgttt	ctgtggagcc	30120
ccccatgggt	ttcggacagc	gtggtcagct	cacattttta	gtgggtcacg	gactacacat	30180
tcaaaaattcc	aaacttcagc	tcaatttggt	acaaggcctc	agaactgacc	ccgtcaccaa	30240
ccagctggaa	gtgcccctcg	gtcaaggttt	ggaaattgca	gacgaatccc	aggttagggg	30300
taaattgggc	gatggcctgc	agtttgattc	acaagctcgc	atcactaccg	ctcctaacat	30360
ggtcactgaa	actctgtgga	ccggaacagg	cagtaatgct	aatgtttacat	ggcgggggcta	30420
cactgcccc	ggcagcaaac	tctttttgag	tctcactcgg	ttcagcactg	gtctagtttt	30480
aggaaacatg	actattgaca	gcaatgcatc	ctttgggcaa	tacattaacg	cgggacacga	30540
acagatcgaa	tgctttatat	tgttggacaa	tcagggtaac	ctaaaagaag	gatctaactt	30600
gcaaggcact	tgggaagtga	agaacaaccc	ctctgcttcc	aaagctgctt	ttttgccttc	30660
caccgcccta	taccccatcc	tcaacgaaa	ccgagggagt	cttcctggaa	aaaatcttgt	30720
gggcatgcaa	gccatactgg	gaggcggggg	cacttgcact	gtgatagcca	ccctcaatgg	30780
cagacgcagc	aacaactatc	ccgcggggcca	gtccataatt	ttcgtgtggc	aagaattcaa	30840
caccatagcc	cgccaacctc	tgaaccactc	tacacttact	ttttcttact	ggacttaaat	30900
aagtgggaaa	taaagagtta	aactgaatgt	ttaagtgcga	cagactttta	ttggttttgg	30960
ctcacaacaa	attacaacag	catagacaag	tcataccggt	caaacaacac	aggctctcga	31020
aaacgggcta	accgctccaa	gaatctgtca	cgcagacgag	caagtcctaa	atgttttttc	31080
actctcttcg	gggccaagtt	cagcatgtat	cggattttct	gcttacacct	ttttagacag	31140
cagtttacac	tcatttccgt	taaaggatta	caactgcggc	atatgagaat	taagtatata	31200
caactattgc	cctttaccga	caaacactcc	ccccacgggg	tgcacctgat	gtagctgccc	31260
tcctcaatca	tgaaagtgtc	attaaagtaa	attaaatgaa	cattattcac	atacacgctt	31320
cccacatagg	ccaaaaaac	agaggacaac	tttgacagct	ccgcctgaa	ataccaatac	31380
actctatcaa	actgcgcacc	gtgcacgcac	tgctttacca	ggccttgaaa	gtaaacagcg	31440
gcggaccgac	actgcaagct	tctaggcttt	gggcagtggt	agtgaatata	tagccactcc	31500
tccccatgca	cgtagtagga	acgcccgttc	ccgggaatca	caaatgacaa	gcagtagtca	31560
cagaggcaac	tagtcaagtg	agcgtcctcc	tgaggcatga	ttaccttcca	tggaatgggc	31620
cagtgaatca	tagtggcaaa	gccagctgca	tctggagcgc	tgcgaaacct	ggctacatgt	31680
ggtgattggc	gacgcagatg	gagacaggac	cttgcatctc	gaagaccact	gcaacagctt	31740
ctgcgtacgc	ttgtatttac	agtacataaa	aaagcacttt	tgccacagag	cggctcttact	31800
caaccgacag	cttttttctt	tctgacgctg	ccttctgcta	ctcaggtagt	acaagtccaa	31860
aagagccaaa	cggacactca	aatccgggtt	atctcgatgc	tgaagccaga	gtccaaaagt	31920
aaccacgcta	aaagcctgca	tccatatttt	gtaactgctg	taactccatc	ccagagccgg	31980
gcaccgcact	tgggtccacca	tagctgcaaa	caaacgggac	aattaaggaa	agtaaaatga	32040
gcgctggggg	cggactcttc	tcccgttcgt	aggaaacagc	cacgtatcaa	acaccctttt	32100
caacactggc	tctccagccg	ctactcgttg	aattaatttg	tccctgtgct	caaacaaccc	32160
acactggtaa	cgggtggctgc	taggcaaaaca	tgtcaaatag	cacataatca	tttcttctac	32220
tttaagcaaa	catcgactag	cagacacttc	acttaattca	gcacagtcac	agcaaggaat	32280
gattatacac	ttgtcatcta	atccactgcc	catgtacaca	ttgccccagg	caaaagtggg	32340
cagggacttt	aagagctgat	tgctcgcccc	gacatagttg	gtaaaataca	gcaaatgcac	32400
cttggttaaca	tacacactcc	ccacatagta	aatataccga	gtagacagct	tagaaagctc	32460

cctccgaaaa	aatgggaaca	tggtatcaaa	ggcagtcccc	gcaacacaca	tcttgaacag	32520
atccatcagg	atagtagctc	gacacagccc	ctgcagactt	tggtcagctt	gcttgctgca	32580
gcagtacact	ctccacgtag	catctccgct	gatgaagtat	tcgctatcgc	agcgacccaa	32640
aatacagcaa	tcacaaggca	gacgcaacag	tctttcatcc	agactgttca	tgagaggctt	32700
tagaggatat	ggaaaaaatc	caaagtgtct	aaaataagca	gcgctgggct	cattctgaca	32760
ttcccccaac	atgctgagtc	gaaccatagc	acagtcatac	aaactcagct	gtcgggaattg	32820
atcttccatg	attgagtttc	tactgagata	ttatctcaaa	cttaaaactg	ttgctcacca	32880
actctatgcg	aacttgctca	agaagctctt	ggtttagggc	gacctcttct	ggtcgctcgga	32940
agttactgat	ggaacaacaa	gcgccgcccc	acttcaaat	tccagccgac	ccaatccagt	33000
ggtctctcaa	ctcacgcgca	caagctacta	tgcagtcctc	actttcgtca	aagtcagcag	33060
cgcctataga	aatcaacaca	ctgagtcac	catcttcagc	ttttaaggga	taacagctga	33120
tagcaaaactg	gttctgagac	cacggcaaa	cacgtaggaa	ttgctgttaa	gttaatttcc	33180
aaacaccgct	gaagcagctc	tatggttgct	ggacatatgt	cctctgcata	gaagctttga	33240
acataactta	agacagggcc	gggcacatga	aacacaaaca	gagaactata	cacaatctgg	33300
gccatgatca	ctcacattta	aatagcagct	gaaaagtggc	tttcttcact	tgggagcaaa	33360
attagcgaag	actgtgccag	aatgtcacgc	tcgaaaaggcg	gtgggtctcg	cagaggcagg	33420
ttcggagctc	taattaaaca	caggtgggta	atccagtcac	cgatgaggac	cagctgaaaa	33480
gtggctttct	tcacttgga	gcaaaattag	cgaagactgt	gccagaatgc	tcacgtcgaa	33540
aggcgggtggg	tctcgcagag	gcaggttcgg	agctctaatt	aaacacaggt	gggtaatcca	33600
gtcaacgatg	aggactttta	aaaaactgtc	taaaactgaa	gcagttaagt	tagaggcaga	33660
cacagaaaaa	actacagtta	aactatcagt	tgctgaaatt	gaaaagcacc	caataattat	33720
gcgcgagggc	acaggcaata	aaagtgttag	cccctcggct	aacgcgtcag	ctaaaaaatc	33780
tttagctaaa	gtatctactg	gccgcgtgg	aaaagtgtga	atataattta	cgacaggagc	33840
tggcaagtga	aactccacaa	aaaaagtaaa	tggctgcaca	cacgccatta	ttttgaaaat	33900
aagaagtact	cacaaaatca	gctggagctg	ccgcaagtga	aaaagaccag	ctgaagtctt	33960
attttaaact	gtaaaatata	aaaaaaaaaa	tagggcggtga	acaaaaatga	gaaaaataata	34020
ccggatatga	ctattaaggg	cgtaactga	aactgggtaa	tatttgagaa	aaagattaag	34080
ataatagctg	aacaaatgtt	gtgtgcagaa	cacggaacaa	tggtggcgaa	aaaaaaaaaac	34140
agtgtaaagca	catggcgcgc	acgtacttcc	gtgagaaaaa	ttaaaaaat	ttaccagta	34200
taaggtgcgt	cattagaccc	gccttgtggc	gcggtttag	ccctgccctt	tgccccgcc	34260
cgcgcgcgc	ccgcgcgcgc	gccccgcgc	ccctcagccc	cgcccagcgc	cgccgcctcc	34320
gcgacgcgct	ccgccccaca	gttacgtcag	cacgccacgc	tcgccgtcgt	tgcgtcataa	34380
atgacgtggc	aaaaatgatt	ggcagttgga	ccgctgccat	cagtgtactg	tagattattg	34440
atgatg						34446

<210> 2

<211> 4

<212> PRT

<213> Bovine adenovirus 600

<400> 2

Thr Leu Trp Thr

1

<210> 3

<211> 8

<212> PRT

<213> Bovine adenovirus 600

<400> 3

Thr Pro Ala Pro Ala Pro Asn Cys

1

5

<210> 4

<211> 10

<212> PRT
 <213> Bovine adenovirus 600

<400> 4
 Ser Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
 1 5 10

<210> 5
 <211> 600
 <212> PRT
 <213> Human adenovirus 5

<400> 5
 Met Ser Val Ser Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met
 1 5 10 15
 Leu Leu Gln Met Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro
 20 25 30
 Val Tyr Pro Tyr Asp Thr Glu Thr Gly Pro Pro Thr Val Pro Phe Leu
 35 40 45
 Thr Pro Pro Phe Val Ser Pro Asn Gly Phe Gln Glu Ser Pro Pro Gly
 50 55 60
 Val Leu Ser Leu Arg Leu Ser Glu Pro Leu Val Thr Ser Asn Gly Met
 65 70 75 80
 Leu Ala Leu Lys Met Gly Asn Gly Leu Ser Leu Asp Glu Ala Gly Asn
 85 90 95
 Leu Thr Ser Gln Asn Val Thr Thr Val Ser Pro Pro Leu Lys Lys Thr
 100 105 110
 Lys Ser Asn Ile Asn Leu Glu Ile Ser Ala Pro Leu Thr Val Thr Ser
 115 120 125
 Glu Ala Leu Thr Val Ala Ala Ala Pro Leu Met Val Ala Gly Asn
 130 135 140
 Thr Leu Thr Met Gln Ser Gln Ala Pro Leu Thr Val His Asp Ser Lys
 145 150 155 160
 Leu Ser Ile Ala Thr Gln Gly Pro Leu Thr Val Ser Glu Gly Lys Leu
 165 170 175
 Ala Leu Gln Thr Ser Gly Pro Leu Thr Thr Thr Asp Ser Ser Thr Leu
 180 185 190
 Thr Ile Thr Ala Ser Pro Pro Leu Thr Thr Ala Thr Gly Ser Leu Gly
 195 200 205
 Ile Asp Leu Lys Glu Pro Ile Tyr Thr Gln Asn Gly Lys Leu Gly Leu
 210 215 220
 Lys Tyr Gly Ala Pro Leu His Val Thr Asp Asp Leu Asn Thr Leu Thr
 225 230 235 240
 Val Ala Thr Gly Pro Gly Val Thr Ile Asn Asn Thr Ser Leu Gln Thr
 245 250 255
 Lys Val Thr Gly Ala Leu Gly Phe Asp Ser Gln Gly Asn Met Gln Leu
 260 265 270
 Asn Val Ala Gly Gly Leu Arg Ile Asp Ser Gln Asn Arg Arg Leu Ile
 275 280 285
 Leu Asp Val Ser Tyr Pro Phe Asp Ala Gln Asn Gln Leu Asn Leu Arg
 290 295 300
 Leu Gly Gln Gly Pro Leu Phe Ile Asn Ser Ala His Asn Leu Asp Ile
 305 310 315 320
 Asn Tyr Asn Lys Gly Leu Tyr Leu Phe Thr Ala Ser Asn Asn Ser Lys
 325 330 335
 Lys Leu Glu Val Asn Leu Ser Thr Ala Lys Gly Leu Met Phe Asp Ala
 340 345 350

Thr	Ala	Ile	Ala	Ile	Asn	Ala	Gly	Asp	Gly	Leu	Glu	Phe	Gly	Ser	Pro
	355						360					365			
Asn	Ala	Pro	Asn	Thr	Asn	Pro	Leu	Lys	Thr	Lys	Ile	Gly	His	Gly	Leu
	370					375					380				
Glu	Phe	Asp	Ser	Asn	Lys	Ala	Met	Val	Pro	Lys	Leu	Gly	Thr	Gly	Leu
385					390					395					400
Ser	Phe	Asp	Ser	Thr	Gly	Ala	Ile	Thr	Val	Gly	Asn	Lys	Asn	Asn	Asp
				405					410					415	
Lys	Leu	Thr	Leu	Trp	Thr	Thr	Pro	Ala	Pro	Ser	Pro	Asn	Cys	Arg	Leu
			420					425					430		
Asn	Ala	Glu	Lys	Asp	Ala	Lys	Leu	Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly
	435						440					445			
Ser	Gln	Ile	Leu	Ala	Thr	Val	Ser	Val	Leu	Ala	Val	Lys	Gly	Ser	Leu
	450					455					460				
Ala	Pro	Ile	Ser	Gly	Thr	Val	Gln	Ser	Ala	His	Leu	Ile	Ile	Arg	Phe
465					470					475					480
Asp	Glu	Asn	Gly	Val	Leu	Leu	Asn	Asn	Ser	Phe	Leu	Asp	Pro	Glu	Tyr
				485					490					495	
Trp	Asn	Phe	Arg	Asn	Gly	Asp	Leu	Thr	Glu	Gly	Thr	Ala	Tyr	Thr	Asn
			500					505					510		
Ala	Val	Gly	Phe	Met	Pro	Asn	Leu	Ser	Ala	Tyr	Pro	Lys	Ser	His	Gly
	515						520					525			
Lys	Thr	Ala	Lys	Ser	Asn	Ile	Val	Ser	Gln	Val	Tyr	Leu	Asn	Gly	Asp
	530					535					540				
Lys	Thr	Lys	Pro	Val	Thr	Leu	Thr	Ile	Thr	Leu	Asn	Gly	Thr	Gln	Glu
545					550					555					560
Thr	Gly	Asp	Thr	Thr	Pro	Ser	Ala	Tyr	Ser	Met	Ser	Phe	Ser	Trp	Asp
				565					570					575	
Trp	Ser	Gly	His	Asn	Tyr	Ile	Asn	Glu	Ile	Phe	Ala	Thr	Ser	Ser	Tyr
			580					585					590		
Thr	Phe	Ser	Tyr	Ile	Ala	Gln	Glu								
	595						600								

<210> 6

<211> 976

<212> PRT

<213> Bovine adenovirus 3

<400> 6

Met	Lys	Arg	Ser	Val	Pro	Gln	Asp	Phe	Asn	Leu	Val	Tyr	Pro	Tyr	Lys
1				5					10					15	
Ala	Lys	Arg	Pro	Asn	Ile	Met	Pro	Pro	Phe	Phe	Asp	Arg	Asn	Gly	Phe
			20					25					30		
Val	Glu	Asn	Gln	Glu	Ala	Thr	Leu	Ala	Met	Leu	Val	Glu	Lys	Pro	Leu
	35						40					45			
Thr	Phe	Asp	Lys	Glu	Gly	Ala	Leu	Thr	Leu	Gly	Val	Gly	Arg	Gly	Ile
	50					55					60				
Arg	Ile	Asn	Pro	Ala	Gly	Leu	Leu	Glu	Thr	Asn	Asp	Leu	Ala	Ser	Ala
65					70					75					80
Val	Phe	Pro	Pro	Leu	Ala	Ser	Asp	Glu	Ala	Gly	Asn	Val	Thr	Leu	Asn
				85					90					95	
Met	Ser	Asp	Gly	Leu	Tyr	Thr	Lys	Asp	Asn	Lys	Leu	Ala	Val	Lys	Val
			100					105					110		
Gly	Pro	Gly	Leu	Ser	Leu	Asp	Ser	Asn	Asn	Ala	Leu	Gln	Val	His	Thr
	115						120					125			
Gly	Asp	Gly	Leu	Thr	Val	Thr	Asp	Asp	Lys	Val	Ser	Leu	Asn	Thr	Gln
	130						135					140			

Ala	Pro	Leu	Ser	Thr	Thr	Ser	Ala	Gly	Leu	Ser	Leu	Leu	Leu	Gly	Pro	145	150	155	160
Ser	Leu	His	Leu	Gly	Glu	Glu	Glu	Arg	Leu	Thr	Val	Asn	Thr	Gly	Ala	165	170	175	
Gly	Leu	Gln	Ile	Ser	Asn	Asn	Ala	Leu	Ala	Val	Lys	Val	Gly	Ser	Gly	180	185	190	
Ile	Thr	Val	Asp	Ala	Gln	Asn	Gln	Leu	Ala	Ala	Ser	Leu	Gly	Asp	Gly	195	200	205	
Leu	Glu	Ser	Arg	Asp	Asn	Lys	Thr	Val	Val	Lys	Ala	Gly	Pro	Gly	Leu	210	215	220	
Thr	Ile	Thr	Asn	Gln	Ala	Leu	Thr	Val	Ala	Thr	Gly	Asn	Gly	Leu	Gln	225	230	235	240
Val	Asn	Pro	Glu	Gly	Gln	Leu	Gln	Leu	Asn	Ile	Thr	Ala	Gly	Gln	Gly	245	250	255	
Leu	Asn	Phe	Ala	Asn	Asn	Ser	Leu	Ala	Val	Glu	Leu	Gly	Ser	Gly	Leu	260	265	270	
His	Phe	Pro	Pro	Gly	Gln	Asn	Gln	Val	Ser	Leu	Tyr	Pro	Gly	Asp	Gly	275	280	285	
Ile	Asp	Ile	Arg	Asp	Asn	Arg	Val	Thr	Val	Pro	Ala	Gly	Pro	Gly	Leu	290	295	300	
Arg	Met	Leu	Asn	His	Gln	Leu	Ala	Val	Ala	Ser	Gly	Asp	Gly	Leu	Glu	305	310	315	320
Val	His	Ser	Asp	Thr	Leu	Arg	Leu	Lys	Leu	Ser	His	Gly	Leu	Thr	Phe	325	330	335	
Glu	Asn	Gly	Ala	Val	Arg	Ala	Lys	Leu	Gly	Pro	Gly	Leu	Gly	Thr	Asp	340	345	350	
Asp	Ser	Gly	Arg	Ser	Val	Val	Arg	Thr	Gly	Arg	Gly	Leu	Arg	Val	Ala	355	360	365	
Asn	Gly	Gln	Val	Gln	Ile	Phe	Ser	Gly	Arg	Gly	Thr	Ala	Ile	Gly	Thr	370	375	380	
Asp	Ser	Ser	Leu	Thr	Leu	Asn	Ile	Arg	Ala	Pro	Leu	Gln	Phe	Ser	Gly	385	390	395	400
Pro	Ala	Leu	Thr	Ala	Ser	Leu	Gln	Gly	Ser	Gly	Pro	Ile	Thr	Tyr	Asn	405	410	415	
Ser	Asn	Asn	Gly	Thr	Phe	Gly	Leu	Ser	Ile	Gly	Pro	Gly	Met	Trp	Val	420	425	430	
Asp	Gln	Asn	Arg	Leu	Gln	Val	Asn	Pro	Gly	Ala	Gly	Leu	Val	Phe	Gln	435	440	445	
Gly	Asn	Asn	Leu	Val	Pro	Asn	Leu	Ala	Asp	Pro	Leu	Ala	Ile	Ser	Asp	450	455	460	
Ser	Lys	Ile	Ser	Leu	Ser	Leu	Gly	Pro	Gly	Leu	Thr	Gln	Ala	Ser	Asn	465	470	475	480
Ala	Leu	Thr	Leu	Ser	Leu	Gly	Asn	Gly	Leu	Glu	Phe	Ser	Asn	Gln	Ala	485	490	495	
Val	Ala	Ile	Lys	Ala	Gly	Arg	Gly	Leu	Arg	Phe	Glu	Ser	Ser	Ser	Gln	500	505	510	
Ala	Leu	Glu	Ser	Ser	Leu	Thr	Val	Gly	Asn	Gly	Leu	Thr	Leu	Thr	Asp	515	520	525	
Thr	Val	Ile	Arg	Pro	Asn	Leu	Gly	Asp	Gly	Leu	Glu	Val	Arg	Asp	Asn	530	535	540	
Lys	Ile	Ile	Val	Lys	Leu	Gly	Ala	Asn	Leu	Arg	Phe	Glu	Asn	Gly	Ala	545	550	555	560
Val	Thr	Ala	Gly	Thr	Val	Asn	Pro	Ser	Ala	Pro	Glu	Ala	Pro	Pro	Thr	565	570	575	
Leu	Thr	Ala	Glu	Pro	Pro	Leu	Arg	Ala	Ser	Asn	Ser	His	Leu	Gln	Leu	580	585	590	
Ser	Leu	Ser	Glu	Gly	Leu	Val	Val	His	Asn	Asn	Ala	Leu	Ala	Leu	Gln				

	595					600					605					
Leu	Gly	Asp	Gly	Met	Glu	Val	Asn	Gln	His	Gly	Leu	Thr	Leu	Arg	Val	
	610						615				620					
Gly	Ser	Gly	Leu	Gln	Met	Arg	Asp	Gly	Ile	Leu	Thr	Val	Thr	Pro	Ser	
625					630					635					640	
Gly	Thr	Pro	Ile	Glu	Pro	Arg	Leu	Thr	Ala	Pro	Leu	Thr	Gln	Thr	Glu	
				645					650					655		
Asn	Gly	Ile	Gly	Leu	Ala	Leu	Gly	Ala	Gly	Leu	Glu	Leu	Asp	Glu	Ser	
			660					665					670			
Ala	Leu	Gln	Val	Lys	Val	Gly	Pro	Gly	Met	Arg	Leu	Asn	Pro	Val	Glu	
	675						680					685				
Lys	Tyr	Val	Thr	Leu	Leu	Leu	Gly	Pro	Gly	Leu	Ser	Phe	Gly	Gln	Pro	
690						695					700					
Ala	Asn	Arg	Thr	Asn	Tyr	Asp	Val	Arg	Val	Ser	Val	Glu	Pro	Pro	Met	
705				710						715					720	
Val	Phe	Gly	Gln	Arg	Gly	Gln	Leu	Thr	Phe	Leu	Val	Gly	His	Gly	Leu	
			725						730					735		
His	Ile	Gln	Asn	Ser	Lys	Leu	Gln	Leu	Asn	Leu	Gly	Gln	Gly	Leu	Arg	
			740					745					750			
Thr	Asp	Pro	Val	Thr	Asn	Gln	Leu	Glu	Val	Pro	Leu	Gly	Gln	Gly	Leu	
	755					760						765				
Glu	Ile	Ala	Asp	Glu	Ser	Gln	Val	Arg	Val	Lys	Leu	Gly	Asp	Gly	Leu	
	770					775					780					
Gln	Phe	Asp	Ser	Gln	Ala	Arg	Ile	Thr	Thr	Ala	Pro	Asn	Met	Val	Thr	
785				790						795					800	
Glu	Thr	Leu	Trp	Thr	Gly	Thr	Gly	Ser	Asn	Ala	Asn	Val	Thr	Trp	Arg	
			805					810						815		
Gly	Tyr	Thr	Ala	Pro	Gly	Ser	Lys	Leu	Phe	Leu	Ser	Leu	Thr	Arg	Phe	
			820					825					830			
Ser	Thr	Gly	Leu	Val	Leu	Gly	Asn	Met	Thr	Ile	Asp	Ser	Asn	Ala	Ser	
	835						840					845				
Phe	Gly	Gln	Tyr	Ile	Asn	Ala	Gly	His	Glu	Gln	Ile	Glu	Cys	Phe	Ile	
	850				855					860						
Leu	Leu	Asp	Asn	Gln	Gly	Asn	Leu	Lys	Glu	Gly	Ser	Asn	Leu	Gln	Gly	
865				870					875						880	
Thr	Trp	Glu	Val	Lys	Asn	Asn	Pro	Ser	Ala	Ser	Lys	Ala	Ala	Phe	Leu	
			885					890						895		
Pro	Ser	Thr	Ala	Leu	Tyr	Pro	Ile	Leu	Asn	Glu	Ser	Arg	Gly	Ser	Leu	
	900							905					910			
Pro	Gly	Lys	Asn	Leu	Val	Gly	Met	Gln	Ala	Ile	Leu	Gly	Gly	Gly	Gly	
	915					920						925				
Thr	Cys	Thr	Val	Ile	Ala	Thr	Leu	Asn	Gly	Arg	Arg	Ser	Asn	Asn	Tyr	
	930				935						940					
Pro	Ala	Gly	Gln	Ser	Ile	Ile	Phe	Val	Trp	Gln	Glu	Phe	Asn	Thr	Ile	
945				950						955					960	
Ala	Arg	Gln	Pro	Leu	Asn	His	Ser	Thr	Leu	Thr	Phe	Ser	Tyr	Trp	Thr	
			965						970					975		

<210> 7

<211> 543

<212> PRT

<213> Ovine adenovirus 287

<400> 7

Met	Lys	Arg	Ala	Arg	Trp	Asp	Pro	Val	Tyr	Pro	Phe	Ser	Glu	Glu	Arg	
1				5					10					15		
Leu	Val	Pro	Leu	Pro	Pro	Phe	Ile	Glu	Ala	Gly	Lys	Gly	Leu	Lys	Ser	

			20					25					30				
Glu	Gly	Leu	Ile	Leu	Ser	Leu	Asn	Phe	Thr	Asp	Pro	Ile	Thr	Ile	Asn		
		35					40					45					
Gln	Thr	Gly	Phe	Leu	Thr	Val	Lys	Leu	Gly	Asp	Gly	Ile	Phe	Ile	Asn		
	50					55					60						
Gly	Glu	Gly	Gly	Leu	Ser	Ser	Thr	Ala	Pro	Lys	Val	Lys	Val	Pro	Leu		
65				70					75					80			
Thr	Val	Ser	Asp	Glu	Thr	Leu	Gln	Leu	Leu	Leu	Ser	Asn	Ser	Leu	Thr		
		85						90					95				
Thr	Glu	Ser	Asp	Ser	Leu	Ala	Leu	Lys	Gln	Pro	Gln	Leu	Pro	Leu	Lys		
		100					105					110					
Ile	Asn	Asp	Glu	Gly	Ser	Leu	Val	Leu	Asn	Leu	Asn	Thr	Pro	Leu	Asn		
	115					120						125					
Leu	Gln	Asn	Glu	Arg	Leu	Ser	Leu	Asn	Val	Ser	Asn	Pro	Leu	Lys	Ile		
	130				135					140							
Ala	Ala	Asp	Ser	Leu	Thr	Ile	Asn	Leu	Lys	Glu	Pro	Leu	Gly	Leu	Gln		
145				150					155					160			
Asn	Glu	Ser	Leu	Gly	Leu	Asn	Leu	Ser	Asp	Pro	Met	Asn	Ile	Thr	Pro		
	165						170						175				
Glu	Gly	Asn	Leu	Gly	Ile	Lys	Leu	Lys	Asn	Pro	Met	Lys	Val	Glu	Glu		
	180					185						190					
Ser	Ser	Leu	Ala	Leu	Asn	Tyr	Lys	Asn	Pro	Leu	Ala	Ile	Ser	Asn	Asp		
	195				200						205						
Ala	Leu	Ser	Ile	Asn	Ile	Ala	Asn	Pro	Leu	Thr	Val	Asn	Thr	Ser	Gly		
	210				215						220						
Ser	Leu	Gly	Ile	Ser	Tyr	Ser	Thr	Pro	Leu	Arg	Ile	Ser	Asn	Asn	Ala		
225				230					235					240			
Leu	Ser	Leu	Phe	Ile	Gly	Lys	Pro	Leu	Gly	Leu	Gly	Thr	Asp	Gly	Ser		
	245					250						255					
Leu	Thr	Val	Asn	Leu	Thr	Arg	Pro	Leu	Val	Cys	Arg	Gln	Asn	Thr	Leu		
	260					265						270					
Ala	Ile	Asn	Tyr	Ser	Ala	Pro	Leu	Val	Ser	Leu	Gln	Asp	Asn	Leu	Thr		
	275				280						285						
Leu	Ser	Tyr	Ala	Gln	Pro	Leu	Thr	Val	Ser	Asp	Asn	Ser	Leu	Arg	Leu		
	290				295				300								
Ser	Leu	Asn	Ser	Pro	Leu	Asn	Thr	Asn	Ser	Asp	Gly	Lys	Leu	Ser	Val		
305				310					315					320			
Asn	Tyr	Ser	Asn	Pro	Leu	Val	Val	Thr	Asp	Ser	Asn	Leu	Thr	Leu	Ser		
	325						330					335					
Val	Lys	Lys	Pro	Val	Met	Ile	Asn	Asn	Thr	Gly	Asn	Val	Asp	Leu	Ser		
	340					345						350					
Phe	Thr	Ala	Pro	Ile	Lys	Leu	Asn	Asp	Ala	Glu	Gln	Leu	Thr	Leu	Glu		
	355				360						365						
Thr	Thr	Glu	Pro	Leu	Glu	Val	Ala	Asp	Asn	Ala	Leu	Lys	Leu	Lys	Leu		
	370				375						380						
Gly	Lys	Gly	Leu	Thr	Val	Ser	Asn	Asn	Ala	Leu	Thr	Leu	Asn	Leu	Gly		
385				390					395					400			
Asn	Gly	Leu	Thr	Phe	Gln	Gln	Gly	Leu	Leu	Gln	Ile	Lys	Thr	Asn	Ser		
	405					410						415					
Ser	Leu	Gly	Phe	Asn	Ala	Ser	Gly	Glu	Leu	Ser	Thr	Ala	Thr	Lys	Gln		
	420				425							430					
Gly	Thr	Ile	Thr	Val	Asn	Phe	Leu	Ser	Thr	Thr	Pro	Ile	Ala	Phe	Gly		
	435				440						445						
Trp	Gln	Ile	Ile	Pro	Thr	Thr	Val	Ala	Phe	Ile	Tyr	Ile	Leu	Ser	Gly		
	450				455				460								
Thr	Gln	Phe	Thr	Pro	Gln	Ser	Pro	Val	Thr	Ser	Leu	Gly	Phe	Gln	Pro		
465				470					475					480			

Pro	Gln	Asp	Phe	Leu	Asp	Phe	Phe	Val	Leu	Ser	Pro	Phe	Val	Thr	Ser
			485						490					495	
Val	Thr	Gln	Ile	Val	Gly	Asn	Asp	Val	Lys	Val	Ile	Gly	Leu	Thr	Ile
		500						505					510		
Ser	Lys	Asn	Gln	Ser	Thr	Ile	Thr	Met	Lys	Phe	Thr	Ser	Pro	Leu	Ala
		515					520					525			
Glu	Asn	Val	Pro	Val	Ser	Met	Phe	Thr	Ala	His	Gln	Phe	Arg	Gln	
		530				535					540				

<210> 8

<211> 448

<212> PRT

<213> Porcine adenovirus 3

<400> 8

Met	Gly	Pro	Lys	Lys	Gln	Lys	Arg	Glu	Leu	Pro	Glu	Asp	Phe	Asp	Pro
1			5					10					15		
Val	Tyr	Pro	Tyr	Asp	Val	Pro	Gln	Leu	Gln	Ile	Asn	Pro	Pro	Phe	Val
		20					25				30				
Ser	Gly	Asp	Gly	Phe	Asn	Gln	Ser	Val	Asp	Gly	Val	Leu	Ser	Leu	His
	35					40					45				
Ile	Ala	Pro	Pro	Leu	Val	Phe	Asp	Asn	Thr	Arg	Ala	Leu	Thr	Leu	Ala
	50					55				60					
Phe	Gly	Gly	Gly	Leu	Gln	Leu	Ser	Gly	Lys	Gln	Leu	Val	Val	Ala	Thr
65				70				75						80	
Glu	Gly	Ser	Gly	Leu	Thr	Thr	Asn	Pro	Asp	Gly	Lys	Leu	Val	Leu	Lys
			85					90					95		
Val	Lys	Ser	Pro	Ile	Thr	Leu	Thr	Ala	Glu	Gly	Ile	Ser	Leu	Ser	Leu
		100					105					110			
Gly	Pro	Gly	Leu	Ser	Asn	Ser	Glu	Thr	Gly	Leu	Ser	Leu	Gln	Val	Thr
	115					120					125				
Ala	Pro	Leu	Gln	Phe	Gln	Gly	Asn	Ala	Leu	Thr	Leu	Pro	Leu	Ala	Ala
	130				135					140					
Gly	Leu	Gln	Asn	Thr	Asp	Gly	Gly	Met	Gly	Val	Lys	Leu	Gly	Ser	Gly
145				150				155						160	
Leu	Thr	Thr	Asp	Asn	Ser	Gln	Ala	Val	Thr	Val	Gln	Val	Gly	Asn	Gly
			165					170					175		
Leu	Gln	Leu	Asn	Gly	Glu	Gly	Gln	Leu	Thr	Val	Pro	Ala	Thr	Ala	Pro
	180						185					190			
Leu	Val	Ser	Gly	Ser	Ala	Gly	Ile	Ser	Phe	Asn	Tyr	Ser	Ser	Asn	Asp
	195					200					205				
Phe	Val	Leu	Asp	Asn	Asp	Ser	Leu	Ser	Leu	Arg	Pro	Lys	Ala	Ile	Ser
	210				215					220					
Val	Thr	Pro	Pro	Leu	Gln	Ser	Thr	Glu	Asp	Thr	Ile	Ser	Leu	Asn	Tyr
225				230				235						240	
Ser	Asn	Asp	Phe	Ser	Val	Asp	Asn	Gly	Ala	Leu	Thr	Leu	Ala	Pro	Thr
		245						250					255		
Phe	Lys	Pro	Tyr	Thr	Leu	Trp	Thr	Gly	Ala	Ser	Pro	Thr	Ala	Asn	Val
	260						265						270		
Ile	Leu	Thr	Asn	Thr	Thr	Thr	Pro	Asn	Gly	Thr	Phe	Phe	Leu	Cys	Leu
	275					280					285				
Thr	Arg	Val	Gly	Gly	Leu	Val	Leu	Gly	Ser	Phe	Ala	Leu	Lys	Ser	Ser
	290				295					300					
Ile	Asp	Leu	Thr	Ser	Met	Thr	Lys	Lys	Val	Asn	Phe	Ile	Phe	Asp	Gly
305				310					315					320	
Ala	Gly	Arg	Leu	Gln	Ser	Asp	Ser	Thr	Tyr	Lys	Gly	Arg	Phe	Gly	Phe
			325					330						335	

Arg	Ser	Asn	Asp	Ser	Val	Ile	Glu	Pro	Thr	Ala	Ala	Gly	Leu	Ser	Pro
			340					345					350		
Ala	Trp	Leu	Met	Pro	Ser	Thr	Phe	Ile	Tyr	Pro	Arg	Asn	Thr	Ser	Gly
		355					360					365			
Ser	Ser	Leu	Thr	Ser	Phe	Val	Tyr	Ile	Asn	Gln	Thr	Tyr	Val	His	Val
		370				375					380				
Asp	Ile	Lys	Val	Asn	Thr	Leu	Ser	Thr	Asn	Gly	Tyr	Ser	Leu	Glu	Phe
385					390					395					400
Asn	Phe	Gln	Asn	Met	Ser	Phe	Ser	Ala	Pro	Phe	Ser	Thr	Ser	Tyr	Gly
			405					410						415	
Thr	Phe	Cys	Tyr	Val	Pro	Arg	Arg	Thr	Thr	His	Arg	Pro	Arg	His	Gly
		420						425				430			
Pro	Phe	Ser	Leu	Arg	Glu	Arg	Arg	His	Leu	Phe	Gln	Leu	Leu	Gln	Gln
		435					440				445				

<210> 9

<211> 542

<212> PRT

<213> Canine adenovirus 2

<400> 9

Met	Lys	Arg	Thr	Arg	Arg	Ala	Leu	Pro	Ala	Asn	Tyr	Asp	Pro	Val	Tyr
1				5					10					15	
Pro	Tyr	Asp	Ala	Pro	Gly	Ser	Ser	Thr	Gln	Pro	Pro	Phe	Phe	Asn	Asn
			20					25				30			
Lys	Gln	Gly	Leu	Thr	Glu	Ser	Pro	Pro	Gly	Thr	Leu	Ala	Val	Asn	Val
		35				40					45				
Ser	Pro	Pro	Leu	Thr	Phe	Ser	Thr	Leu	Gly	Ala	Ile	Lys	Leu	Ser	Thr
	50				55					60					
Gly	Pro	Gly	Leu	Thr	Leu	Asn	Glu	Gly	Lys	Leu	Gln	Ala	Ser	Leu	Gly
65					70				75						80
Pro	Gly	Leu	Ile	Thr	Asn	Thr	Glu	Gly	Gln	Ile	Thr	Val	Glu	Asn	Val
			85					90					95		
Asn	Lys	Val	Leu	Ser	Phe	Thr	Ser	Pro	Leu	His	Lys	Asn	Glu	Asn	Thr
		100						105					110		
Val	Ser	Leu	Ala	Leu	Gly	Asp	Gly	Leu	Glu	Asp	Glu	Asn	Gly	Thr	Leu
		115					120					125			
Lys	Val	Thr	Phe	Pro	Thr	Pro	Pro	Pro	Pro	Leu	Gln	Phe	Ser	Pro	Pro
	130					135					140				
Leu	Thr	Lys	Thr	Gly	Gly	Thr	Val	Ser	Leu	Pro	Leu	Gln	Asp	Ser	Met
145				150					155						160
Gln	Val	Thr	Asn	Gly	Lys	Leu	Gly	Val	Lys	Pro	Thr	Thr	Tyr	Ala	Pro
			165					170					175		
Pro	Leu	Lys	Lys	Thr	Asp	Gln	Gln	Val	Ser	Leu	Gln	Val	Gly	Ser	Gly
		180						185					190		
Leu	Thr	Val	Ile	Asn	Glu	Gln	Leu	Gln	Ala	Val	Gln	Pro	Pro	Ala	Thr
	195						200					205			
Thr	Tyr	Asn	Glu	Pro	Leu	Ser	Lys	Thr	Asp	Asn	Ser	Val	Ser	Leu	Gln
	210					215					220				
Val	Gly	Ala	Gly	Leu	Ala	Val	Gln	Ser	Gly	Ala	Leu	Val	Ala	Thr	Pro
225				230					235						240
Pro	Pro	Pro	Leu	Thr	Phe	Thr	Ser	Pro	Leu	Glu	Lys	Asn	Glu	Asn	Thr
			245						250					255	
Val	Ser	Leu	Gln	Val	Gly	Ala	Gly	Leu	Ser	Val	Gln	Asn	Asn	Ala	Leu
		260					265					270			
Val	Ala	Thr	Pro	Pro	Pro	Pro	Leu	Thr	Phe	Ala	Tyr	Pro	Leu	Val	Lys
		275					280					285			

Asn	Asp	Asn	His	Val	Ala	Leu	Ser	Ala	Gly	Ser	Gly	Leu	Arg	Ile	Ser
290						295					300				
Gly	Gly	Ser	Leu	Thr	Val	Ala	Thr	Gly	Pro	Gly	Leu	Ser	His	Gln	Asn
305					310					315					320
Gly	Thr	Ile	Gly	Ala	Val	Val	Gly	Ala	Gly	Leu	Lys	Phe	Glu	Asn	Asn
				325					330						335
Ala	Ile	Leu	Ala	Lys	Leu	Gly	Asn	Gly	Leu	Thr	Ile	Arg	Asp	Gly	Ala
			340					345					350		
Ile	Glu	Ala	Thr	Gln	Pro	Pro	Ala	Ala	Pro	Ile	Thr	Leu	Trp	Thr	Gly
		355					360						365		
Pro	Gly	Pro	Ser	Ile	Asn	Gly	Phe	Ile	Asn	Asp	Thr	Pro	Val	Ile	Arg
	370					375					380				
Cys	Phe	Ile	Cys	Leu	Thr	Arg	Asp	Ser	Asn	Leu	Val	Thr	Val	Asn	Ala
385					390					395					400
Ser	Phe	Val	Gly	Glu	Gly	Gly	Tyr	Arg	Ile	Val	Ser	Pro	Thr	Gln	Ser
				405					410						415
Gln	Phe	Ser	Leu	Ile	Met	Glu	Phe	Asp	Gln	Phe	Gly	Gln	Leu	Met	Ser
			420					425					430		
Thr	Gly	Asn	Ile	Asn	Ser	Thr	Thr	Thr	Trp	Gly	Glu	Lys	Pro	Trp	Gly
		435					440						445		
Asn	Asn	Thr	Val	Gln	Pro	Arg	Pro	Ser	His	Thr	Trp	Lys	Leu	Cys	Met
	450					455					460				
Pro	Asn	Arg	Glu	Val	Tyr	Ser	Thr	Pro	Ala	Ala	Thr	Ile	Ser	Arg	Cys
465					470					475					480
Gly	Leu	Asp	Ser	Ile	Ala	Val	Asp	Gly	Ala	Pro	Ser	Arg	Ser	Ile	Asp
				485					490						495
Cys	Met	Leu	Ile	Ile	Asn	Lys	Pro	Lys	Gly	Val	Ala	Thr	Tyr	Thr	Leu
			500					505						510	
Thr	Phe	Arg	Phe	Leu	Asn	Phe	Asn	Arg	Leu	Ser	Gly	Gly	Thr	Leu	Phe
		515					520					525			
Lys	Thr	Asp	Val	Leu	Thr	Phe	Thr	Tyr	Val	Gly	Glu	Asn	Gln		
	530					535					540				